Vol. XVI. April, 1914. No. 4

THE TECHNOLOGY REVIEW

RELATING TO THE MASSACHVSETTS INSTITVTE OF TECHNOLOGY

PVBLISHED AT
491 BOYLSTON STREET BOSTON BY THE
ALVMNI ASSOCIATION

Entered as second-class mail matter at Boston Post Office

MAGAZINE NUMBER

Monthly, except August, September

technology
review
Published by MIT

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Boston, Mass.

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY aims to give thorough instruction in *Civil, Mechanical, Chemical, Mining, Electrical,* and *Sanitary Engineering; in Chemistry, Electrochemistry, Architecture, Physics, Biology* and *Public Health, Geology,* and *Naval Architecture.*

To be admitted to the Institute, the applicant must have attained the age of seventeen years and must pass examinations in algebra, plane and solid geometry, physics, history of the United States (or ancient history), English, French and German. Preparation in some one of a series of elective subjects is also required. A division of these examinations between different examination periods is allowed. In general, a faithful student who has passed creditably through a good high school, having two years' study of French and German, should be able to pass the Institute examinations.

Graduates of colleges, and in general all applicants presenting certificates representing work done at other colleges, are excused from the usual entrance examinations and from any subjects already satisfactorily completed. Records of the College Entrance Examination Board, which holds examinations at many points throughout the country and in Europe, are also accepted for admission to the Institute.

Instruction is given by means of lectures and recitations, in connection with appropriate work in the laboratory, drawing-room or field. To this end extensive laboratories of chemistry, physics, biology, mining, mechanical engineering, applied mechanics, and the mechanic arts, have been thoroughly equipped, and unusual opportunities for field-work and for the examination of existing structures and industries have been secured. So far as is practicable, instruction is given personally to small sections rather than by lectures to large bodies of students.

The regular courses are of four years' duration, and lead to the degree of Bachelor of Science. In most courses the work may also be distributed over five years by students who prefer to do so. Special students are admitted to work for which they are qualified; and the degrees of Master of Science, Doctor of Philosophy, and Doctor of Engineering are given for resident study subsequent to graduation. Opportunity for research is offered in all the departmental laboratories, in the three recently established Research Laboratories of Applied Chemistry and Physical Chemistry, and in the Sanitary Research Laboratory and Sewage Experiment Station.

The tuition fee not including breakage in the laboratories, is $250 a year. In addition, $30 to $35 per year is required for books and drawing materials.

For catalogues and information, address

ALLYNE L. MERRILL, *Secretary of the Faculty,*
491 Boylston Street, Boston.

The Technology Review

VOL. XVI. APRIL, 1914 No. 4

Contents

ALUMNI ASSOCIATION
OF THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

OFFICERS

President, JASPER WHITING, '89 (term expires January, 1915).

Vice-Presidents, WILLIAM H. KING, '94 (term expires January, 1915).
HENRY J. HORN, '88 (term expires January, 1916).
J. W. ROLLINS, '78 (term expires 1915).

Secretary-Treasurer, WALTER HUMPHREYS, '97 (term expires January, 1915).

Executive Committee

THE PRESIDENT, VICE-PRESIDENTS AND SECRETARY-TREASURER.
MERTON L. EMERSON, '04 (term expires January, 1915).
HERBERT N. DAWES, '93 (term expires January, 1915).
JOSEPH H. KNIGHT, '96 (term expires January, 1916).
JAMES F. MCELWAIN, '97 (term expires January, 1916).

Representatives at Large

Term expires January, 1915.
ARTHUR C. ANTHONY, '86.
LOUIS K. ROURKE, '95.
LUTHER K. YODER, '95.
W. LYMAN UNDERWOOD, '98.
THOMAS E. SEARS, '03.

Term expires January, 1916.
FRANKLIN B. RICHARDS, '84.
CHARLES W. EATON, '85.
FRANK A. MERRILL, '87.
GEORGE C. WHIPPLE, '89.
SUMNER B. ELY, '92.

Term Members of the Corporation

Term expires March, 1915.
FRANK W. ROLLINS, '81.
EDWIN S. WEBSTER, '88.
EDWARD CUNNINGHAM, '91.

Term expires March, 1916.
ARTHUR WINSLOW, '81.
HENRY HOWARD, '89.
HENRY A. MORSS, '93.

Term expires March, 1917.
EBEN S. STEVENS, '68.
ARTHUR D. LITTLE, '85.
LOUIS A. FERGUSON, '88.

Term expires March, 1918.
CHARLES T. MAIN, '76.
CASS GILBERT, '80.
CHARLES HAYDEN, '90.

Term expires March, 1919.
FRANKLIN W. HOBBS, '89.
FREDERIC H. FAY, '93.
GERARD SWOPE, '95.

Nominating Committee

Term expires January, 1915.
ARTHUR A. NOYES, '86, *Chmn.*
I. W. LITCHFIELD, '85.
LAWRENCE ALLEN, '07.

Term expires January, 1916.
J. W. ROLLINS, '78.
EVERETT MORSS, '85.
BENJAMIN HURD, '96.

Term expires January, 1917.
F. H. FAY, '93.
J. P. MUNROE, '82.
W. B. SNOW, '82.

STANDING AND SPECIAL COMMITTEES

Committee on Permanent Funds

FRANCIS C. GREEN, '95, *Treasurer*, to serve until the annual meeting in 1917.
JAMES P. MUNROE, '82, to serve until the annual meeting in 1915.
ROBERT H. RICHARDS, '68, to serve until the annual meeting in 1916.

Advisory Council on Athletics

J. ARNOLD ROCKWELL, *Chairman*, '96 (term expires in 1916).
ALLAN W. ROWE, '01 (term expires in 1917).
J. L. BATCHELDER, '90 (term expires in 1915).

Committee on Publication of the Technology Review

WALTER BRADLEE SNOW, '82.
ARTHUR AMOS NOYES, '86.
FREDERIC H. FAY, '93.
LESTER D. GARDNER, '98.
ISAAC WHITE LITCHFIELD, '85, *Editor*.

Walker Memorial Committee

HARRY W. TYLER, '84, *Chairman*.
CHARLES M. BAKER, '78, *Treasurer*.
CHARLES-EDWARD A. WINSLOW, '98, *Secretary*.
ROBERT H. RICHARDS, '68.
THOMAS HIBBARD, '75.
EVERETT MORSS, '85.
WILLIAM B. THURBER, '89.
JOHN L. BATCHELDER, '90.
A. FARWELL BEMIS, '93.

Runkle Memorial Committee

ROBERT H. RICHARDS, '68.
C. FRANK ALLEN, '72.
H. W. TYLER, '84.

Committee on Assemblies

GEORGE B. GLIDDEN, '93, *Chairman*.
HARRY S. MORK, '99.
DON GALUSHA, '04.
LAWRENCE ALLEN, '07.
ORVILLE B. DENISON, '11.

Tech Show Advisory Council

I. W. LITCHFIELD, '85.
M. L. EMERSON, '04.

"The Tech" Advisory Council

T. E. SEARS, '03.
G. DE W. MARCY, '05.

Alumni Fund Committee

EVERETT MORSS, '85, *Chairman*.
JAMES W. ROLLINS, '78.
ARTHUR T. BRADLEE, '88.
I. W. LITCHFIELD, '85, *Secretary*
EDWIN S. WEBSTER, '88.
FREDERIC H. FAY, '93.

Standing Committee on the Collection of Dues and Increase of Membership

MERTON L. EMERSON, '04, *Chairman.*
MILES S. RICHMOND, '99, to serve until January 1, 1916.
REGINALD A. WENTWORTH, '04, to serve until January 1, 1917.
I. W. LITCHFIELD, '85, Field Manager, *ex-officio.*

Committee on the Reorganization of the Technology Coöperative Society

LEONARD C. WASON, '91, *Chairman.*
HORACE S. FORD, Bursar, M. I. T.
CHARLES W. EATON, '85.
A. D. MACLACHLAN, '96.
ELMER E. DAWSON, JR., '14.

Committee on Publicity

HOWARD C. TURNER, '03, *Chairman.*
PROF. HENRY L. SEAVER, M. I. T.
INGERSOLL BOWDITCH, '00.
C. A. SAWYER, JR., '02.
WALTER P. KEITH, '14.

Committee on Relation between Alumni Advisory Councils and the Students

F. H. HUNTER, '02, *Chairman.*
C. W. GRAM, '09.
A. C. DORRANCE, '14.
T. H. GUETHING, '14.

Committee on Coöperation between Technology and the Commonwealth of Massachusetts

JAMES F. MCELWAIN, '97, *Chairman.*
JUDGE J. F. MEANEY.
PROF. D. C. JACKSON.
MATTHEW C. BRUSH, '01.
ROBERT G. VALENTINE.

By vote of the Alumni Council, February 16, 1914, the President and Secretary-Treasurer are members *ex-officio* of all committees, without vote.

COUNCIL OF THE ALUMNI ASSOCIATION

COUNCIL MEETINGS: 4th Monday of each month from October to May, inclusive.

Officers of the Association:—

President, JASPER WHITING, '89.
Vice-Presidents, WILLIAM H. KING, '94, HENRY J. HORN, '88, JAMES W. ROLLINS, '78.
Secretary-Treasurer, WALTER HUMPHREYS, '97.
Executive Committee, JOSEPH H. KNIGHT, '96. JAMES H. McELWAIN, '97. MERTON L. EMERSON, '04. HERBERT N. DAWES, '93.

Five latest living ex-Presidents:—

EDWIN S. WEBSTER, '88.
A. F. BEMIS, '93.
A. A. NOYES, '86.
J. W. ROLLINS, '78.
FREDERIC H. FAY, '93.

Representatives at large:—

ARTHUR C. ANTHONY, '86.
LOUIS K. ROURKE, '95.
LUTHER K. YODER, '95.
W. LYMAN UNDERWOOD, '98
THOMAS E. SEARS, '03.
FRANKLIN B. RICHARDS, '84.
CHARLES W. EATON, '85.
FRANK A. MERRILL, '87.
GEORGE C. WHIPPLE, '89.
SUMNER B. ELY, '92.

Class Representatives:—

'68, ROBERT H. RICHARDS.
'69, HOWARD A. CARSON.
'70, E. K. TURNER.
'71, E. W. ROLLINS.
'72, EDGAR W. UPTON.
'73, SAMUEL E. TINKHAM.
'74, GEORGE H. BARRUS.
'75, THOMAS HIBBARD.
'76, C. T. MAIN.
'77, WALTER JENNEY.
'78, C. M. BAKER.
'79, E. C. MILLER.
'80, GEORGE H. BARTON.
'81, JOHN DUFF.
'82, JAMES P. MUNROE.
'83, HORACE B. GALE.
'84, HARRY W. TYLER.
'85, I. W. LITCHFIELD.
'86, A. A. NOYES.
'87, HENRY F. BRYANT.
'88, ARTHUR T. BRADLEE.
'89, HENRY HOWARD.
'90, WILLIAM Z. RIPLEY.
'91, ARTHUR H. ALLEY.
'92, LEONARD METCALF.
'93, FREDERIC H. FAY.
'94, S. C. PRESCOTT.
'95, ANDREW D. FULLER.
'96, J. ARNOLD ROCKWELL.
'97, C. W. BRADLEE.
'98, SETH K. HUMPHREY.
'99, H. J. SKINNER.
'00, INGERSOLL BOWDITCH.
'01, ROBERT L. WILLIAMS.
'02, F. H. HUNTER.
'03, MYRON H. CLARK.
'04, M. L. EMERSON.
'05, G. D'W. MARCY.
'06, JOHN J. DONOVAN.
'07, LAWRENCE ALLEN.
'08, H. T. GERRISH.
'09, CARL W. GRAM.
'10, HERBERT S. CLEVERDON
'11, ORVILLE B. DENISON.
'12, RANDALL CREMER.
'13, W. R. MATTSON.

Local societies with representation on the Council:—

TECHNOLOGY CLUB OF THE MERRIMACK VALLEY, E. B. Carney, '93.
TECHNOLOGY CLUB OF NEW YORK, R. H. Howes, '03.
NORTHWESTERN ASSOCIATION, M. I. T., B. R. T. Collins, '88.
PITTSBURGH ALUMNI ASSOCIATION, Sumner B. Ely, '92.
TECHNOLOGY CLUB OF PHILADELPHIA, Leonard C. Wason, '91.
WASHINGTON SOCIETY OF THE M. I. T., Henry Morss, '93.
TECHNOLOGY CLUB OF MILWAUKEE, A. C. Macomber, '07.
THE CINCINNATI M. I. T. CLUB, C. L. Homer, '04.
M. I. T. CLUB OF CENTRAL NEW YORK, Irving S. Merrell, '96.
TECHNOLOGY CLUB OF NORTHERN OHIO, G. R. Wadsworth, '98.
TECHNOLOGY CLUB OF RHODE ISLAND, E. B. Homer, '85.
TECHNOLOGY CLUB OF PUGET SOUND, Don Galusha, '04.
TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA, John C. Chase, '74.
TECHNOLOGY CLUB OF NEW HAMPSHIRE, Andrew Fisher, Jr., '05.
TECHNOLOGY CLUB OF BUFFALO, M. S. Sherrill, '99.
TECHNOLOGY ASSOCIATION OF MINNESOTA, M. C. Brush, '01.
DETROIT ASSOCIATION OF THE M. I. T., Everett Morss, '85.
INTERMOUNTAIN TECHNOLOGY ASSOCIATION, R. B. Pendergast, '02.
TECHNOLOGY CLUB OF THE CONNECTICUT VALLEY, Eben S. Stevens, '68.
TECHNOLOGY CLUB OF HARTFORD, CONN., R. A. Wentworth, '04.
INLAND EMPIRE ASSOCIATION OF THE M. I. T., H. W. Gardner, '94.
TECHNOLOGY CLUB OF NEW BEDFORD, C. F. Lawton, '77.
TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA, Burton G. Philbrick, '02.
TECHNOLOGY ASSOCIATION OF OREGON, A. D. Maclachlan, '96.
ROCKY MOUNTAIN TECHNOLOGY CLUB, Allen H. Rogers, '90.
TECHNOLOGY CLUB OF THE SOUTH, C. W. Taintor, '93.
TECHNOLOGY ASSOCIATION OF JAPAN, H. W. Smith, '97.
TECHNOLOGY CLUB OF ROCHESTER, C. A. Sawyer, Jr., '02.
ST. LOUIS SOCIETY OF THE M. I. T., C. M. Spofford, '93.
SOUTHEASTERN TECHNOLOGY ASSOCIATION, H. S. Mork, '99.
SOUTHWESTERN ASSOCIATION OF M. I. T., Howard C. Turner, '03.
PITTSFIELD ALUMNI ASSOCIATION, W. B. Snow, '82.
HAWAII TECHNOLOGY CLUB, A. M. Hamblett, '02.
TECHNOLOGY CLUB OF LOWER CANADA, George W. Vaillant, '92.

Other local societies not yet appointed a representative on the Council:—

TECHNOLOGY CLUB OF THE FAR EAST.
TECHNOLOGY ASSOCIATION OF WORCESTER COUNTY.
TECHNOLOGY CLUB OF ALBANY, NEW YORK.
ATLANTA M. I. T. ALUMNI ASSOCIATION.
TECHNOLOGY CLUB OF THE UNIVERSITY OF ILLINOIS.

THE TECHNOLOGY CLUBS ASSOCIATED

ORGANIZED IN NEW YORK, JANUARY 17, 1913

President, J. W. ROLLINS, '78,

Vice-Presidents, FRANK DABNEY, '75, care Seattle Electric Company, Seattle, Wash.; I. W. LITCHFIELD, '85, Massachusetts Institute of Technology, Boston, Mass.; SOLOMON STURGES, '87, 124 W. Adams Street, Chicago, Ill.; F. A. SMYTHE, '89, The Thew Automatic Shovel Company, Lorain, Ohio; L. K. YODER, '95, 5810 Murrayhill Place, Pittsburgh, Pa.; BENJAMIN HURD, '96, 463 West Street, New York City.

Secretary-Treasurer, WALTER HUMPHREYS, '97, Massachusetts Institute of Technology, Boston, Mass.

Associate Secretary, ANDREW FISHER, Jr., '05, 180 East River Street, Hyde Park, Mass.

CLASS SECRETARIES

ROBERT HALLOWELL RICHARDS . . . '68
Massachusetts Institute of Technology, Boston.

HOWARD ADAMS CARSON . . . . . '69
79 Glenwood Street, Malden, Mass.

CHARLES ROBERT CROSS . . . . . '70
Massachusetts Institute of Technology, Boston.

EDWARD WARREN ROLLINS . . . . '71
Dover, N. H.

C. FRANK ALLEN . . . . . '72
Massachusetts Institute of Technology, Boston.

SAMUEL EVERETT TINKHAM . . . . '73
The Warren, Roxbury, Mass

CHARLES FRENCH READ . . . . . '74
Old State House, Boston, Mass.

EDWARD A. W. HAMMATT . . . . . '75
15 Water St., Newton Centre, Mass.

JOHN RIPLEY FREEMAN . . . . . '76
Grosvenor Building, Providence, R. I.

RICHARD AUGUSTUS HALE . . . . '77
Essex Company, Lawrence, Mass.

E. P. COLLIER . . . . . '78
256 Summer Street, Boston, Mass.

EDWIN CHILD MILLER . . . . . '79
Wakefield, Mass.

GEORGE HUNT BARTON . . . . . '80
16 Lexington Avenue, Cambridge, Mass

FRANK ELDEN CAME . . . . . '81
Metcalfe Apartments, Westmount, Quebec, P. Q.

FRANK H. BRIGGS . . . . . '81
Ass't Secretary, 10 High St., Boston, Mass.

WALTER BRADLEE SNOW . . . . . '82
170 Summer Street, Boston, Mass.

HARVEY STUART CHASE . . . . . '83
84 State Street, Boston, Mass.

HARRY W. TYLER . . . . . '84
Massachusetts Institute of Technology, Boston.

ISAAC WHITE LITCHFIELD . . . . . '85
Massachusetts Institute of Technology, Boston.

ARTHUR GRAHAM ROBBINS . . . . '86
Massachusetts Institute of Technology, Boston.

EDWARD GALBRAITH THOMAS . . . . '87
Boss Mfg. Co., Kewanee, Ill.

WILLIAM GAGE SNOW . . . . . '88
24 Milk Street, Boston, Mass.

WALTER H. KILHAM . . . . . '89
9 Park Street, Boston, Mass

GEORGE L. GILMORE . . . . . '90
Lexington, Mass.

HOWARD CARLETON FORBES . . . . '91
88 Broad Street, Boston, Mass.

W. A. JOHNSTON . . . . . '92
Massachusetts Institute of Technology. Boston.

C. H. CHASE . . . . . '92
Ass't Secretary, Tufts College, Mass.

FREDERIC HAROLD FAY . . . . . '93
60 City Hall, Boston, Mass.

FREDERIC H. KEYES, Ass't Sec. . . . '93
Care of Mechlin & Stone. Wilkins Bldg., Washington, D. C.

SAMUEL CATE PRESCOTT . . . . . '94
Massachusetts Institute of Technology, Boston.

WILLIAM H. WINKLEY . . . . . '95
44 Kilby Street, Boston, Mass.

CHARLES E. LOCKE . . . . . '96
Massachusetts Institute of Technology, Boston.

J. ARNOLD ROCKWELL, Ass't Secretary . '96
24 Garden St., Cambridge, Mass.

JOHN ARTHUR COLLINS, JR. . . . . '97
67 Thorndyke Street, Lawrence, Mass

A. A. BLANCHARD . . . . . '98
M. I. T., Boston, Mass.

W. MALCOLM CORSE . . . . . '99
106 Morris Avenue, Buffalo, N. Y.

INGERSOLL BOWDITCH . . . . . '00
111 Devonshire Street, Boston, Mass.

ROBERT L. WILLIAMS . . . . . '01
8 Lake Street, Brighton, Mass

FREDERICK HUSTON HUNTER . . . . '02
281 Park Street, West Roxbury, Mass.

J. ALBERT ROBINSON, Ass't Secretary . . '02
141 Milk St., Boston, Mass.

MYRON H. CLARK . . . . . '03
43 Glen Rock Circle, Malden, Mass.

R. H. Nutter . . . . . '03
Ass't Secretary, Box 272, Lynn, Mass.

HENRY W. STEVENS . . . . . '04
39 Boylston Street, Boston, Mass.

AMASA M. HOLCOMBE . . . . . '04
Ass't Secretary, 510 Pine St., St. Louis, Mo.

GROSVENOR DEWITT MARCY . . . '05
246 Summer Street, Boston, Mass.

C. F. W. WETTERER . . . . . '06
147 Milk St., Boston, Mass.

J. W. KIDDER, Ass't Secretary . . . . '06
50 Oliver Street, Boston, Mass.

BRYANT NICHOLS . . . . . '07
10 Grand View Road, Chelsea, Mass.

HAROLD S. WONSON . . . . . '07
Ass't Secretary, 43 Ainsworth Street, Roslindale, Mass.

RUDOLPH B. WEILER . . . . . '08
Care of Sharples Separator Co., West Chester, Pa.

CHARLES W. WHITMORE . . . . . '08
Ass't Secretary, 1553 Beacon Street, Brookline, Mass.

CARL W. GRAM . . . . . '09
Care of Walter Baker & Co., Ltd. Milton, Mass.

JOHN MOXCEY FITZWATER . . . . '10
Industry, N. Y.

G. BERGEN REYNOLDS . . . . . '10
Ass't Secretary, 142 Highland Ave., Somerville, Mass.

O. B. DENISON . . . . . '11
Hotel Standish, Worcester, Mass.

HERBERT FRYER . . . . . '11
Ass't Secretary, 1095 Fellsway, Malden, Mass.

RANDALL CREMER . . . . . '12
9 Orchard Street, New Rochelle, N. Y.

JOHN E. WHITTLESEY . . . . . '12
Ass't Secretary, 10 Regent Street, W. Newton, Mass.

F. D. MURDOCK. . . . . '13
M. I. T., Boston, Mass.

A. W. CARPENTER . . . . . '13
Ass't Secretary, 526 Newbury Street, Boston, Mass.

LOCAL ALUMNI ASSOCIATIONS

Albany—Technology Club of Albany, N. Y., Russell Suter ('00), Secretary, Conservation Com., Albany, N. Y.

Atlanta—Atlanta M. I. T. Alumni Association, H. M. Keys ('99), Secretary, 65 West 10th Street, Atlanta, Ga.

Birmingham—Southeastern Technology Association, A. F. Mohan ('08), care Kirkpatrick Sand & Cement Co., Birmingham, Ala.

☞ Luncheon—Saturdays at 1.00 p. m. at the Turnverein.

Boston—Technology Club of Boston, Dr. Robert Seaton Williams ('02), Secretary, 83 Newbury Street, Boston, Mass.

Buffalo—Technology Club of Buffalo, H. M. Cowper ('05), Secretary, 1010 Mutual Life Bldg., Buffalo, N. Y.

☞ Luncheon—First Thursday of every month at 12.30 p. m. at the Buffalo Chamber of Commerce.

Chicago—Northwestern Association of the M. I. T., George B. Jones ('05), Secretary, 1444 Monadnock Bldg., Chicago, Ill.

☞ Luncheon—Thursdays at 12.30 p. m. at Grand Pacific Hotel, Clark and Jackson Streets.

Cincinnati—The Cincinnati M. I. T. Club, Stuart R. Miller ('07), Secretary, 3366 Morrison Avenue, Clifton, Cincinnati, Ohio.

☞ Luncheon—Tuesdays from 12.30—2.00 p. m. in Main Dining Room, at the Bismarck, Mercantile Library Building, Walnut Street.

Cleveland—Technology Club of Northern Ohio, Cleveland, Ohio, Donald R. Stevens ('11), Secretary, Peerless Motor Car Company, Cleveland, Ohio.

Denver—Rocky Mountain Technology Club, M. W. Hayward, ('06), Secretary, 625 Colorado Bldg., Denver, Col.

☞ Luncheons—Wednesdays, from 12.30 to 1.30 p. m. at Colorado Electric Club, Chamber of Commerce Bldg., Denver, Col.

Detroit—Detroit Technology Association, Preston M. Smith ('05), Secretary, care of Carl E. Schmidt & Co., 54 Macomb Street, Detroit, Mich.

Hartford—Technology Club of Hartford, Conn., George William Baker ('92), Secretary, Box 983, Hartford, Conn.

Hawaii—Hawaii Technology Club, Norman Watkins ('98), Secretary, Box 767, Honolulu, H. I.

Indianapolis—Indiana Association, M. I. T., Wilson B. Parker ('88), Secretary, 805 Board of Trade Bldg., Indianapolis, Ind.

☞ Luncheon—15th day of each month. Place announced each month.

Japan—Technology Association of Japan, Dr. Takuma Dan ('78), Secretary-Treasurer 344 Awoyama Harajiku, Tokio, Japan.

Kansas City, Mo.—Southwestern Association of M. I. T., Robert S. Beard ('05), Secretary-Treasurer, 5th Floor, Waterworks Bldg., Kansas City, Mo.

Lawrence } Technology Club of the Merrimack Valley, John Arthur Collins, Jr. ('97),
Lowell } Secretary, 67 Thorndyke Street, Lawrence, Mass.

Los Angeles—Technology Club of Southern California, Robert S. Breyer ('10), Secretary, Box 614, Y. M. C. A., Los Angeles, Cal.

☞ Luncheon—First Wednesday of each month at the University Club.

Manchester—Technology Club of New Hampshire, Walter D. Davol ('06), Secretary-Treasurer, 819 Elm Street, Manchester, N. H.

Manila—Technology Club of the Far East, William A. Adams ('08), Secretary, Bureau of Lands, Manila, P. I.

Milwaukee—Technology Club of Milwaukee, Mitchell Mackie ('05), Secretary, Commercial Auto Co., Milwaukee, Wis.

Minneapolis—Technology Association of Minnesota, DeW. C. Ruff ('07), Secretary, Manhattan Bldg., St. Paul, Minn.

Montreal—Technology Club of Lower Canada, E. B. Evans ('06), 357 St. Catherine Street, W., Montreal, Quebec.

New Bedford—Technology Club of New Bedford, Mass., Richard D. Chase ('92), Secretary, 607 Purchase Street, New Bedford, Mass.

New Orleans—Technology Club of the South, Frank Wyman Crosby ('90), Secretary, 501-504 Denegre Building, New Orleans, La.

New York—TECHNOLOGY CLUB OF NEW YORK, 17 Gramercy Park, Walter Large ('79), Secretary, 15 William Street, New York, N. Y.

Philadelphia—TECHNOLOGY CLUB OF PHILADELPHIA, F. B. Wood ('09), 5th Ave., Park Heights, Baltimore, Md.

Pittsburgh—PITTSBURGH ALUMNI ASSOCIATION, Harry A. Rapelye ('08), Secretary, 2123 Oliver Bldg., Pittsburgh, Pa.

Pittsfield—PITTSFIELD ALUMNI ASSOCIATION, E. A. Jones ('87), P. O. Box 1623, Pittsfield, Mass.

Portland—TECHNOLOGY ASSOCIATION OF OREGON, R. E. Cushman ('06), Secretary-Treasurer, 266 East 27th Street, N., Portland, Ore.

Providence—TECHNOLOGY CLUB OF RHODE ISLAND, Gerald M. Richmond ('99), Secretary, 532 Grosvenor Bldg., Providence, R. I.

Rochester—TECHNOLOGY CLUB OF ROCHESTER, J. F. Ancona ('03), Secretary, 190 Birr Street, Rochester, N. Y.

St. Louis—ST. LOUIS SOCIETY OF THE M. I. T., Amasa M. Holcombe ('04), Secretary-Treasurer, care of Carr & Carr, 510 Pine Street, St. Louis, Mo.

San Francisco—TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA, Office, 832 Merchants Exchange Bldg., San Francisco, Cal., Eugene Kriegsman ('05), 444 Market Street, San Francisco, Cal.

☞ Luncheon—Tuesdays at Jules Café.

Salt Lake City—INTERMOUNTAIN TECHNOLOGY ASSOCIATION, Gregory M. Dexter ('08), Secretary-Treasurer, Box 195, Salt Lake City, Utah.

Seattle—TECHNOLOGY CLUB OF PUGET SOUND, Joseph Daniels ('05), Secretary, Box 115, University Station, Seattle, Wash.

☞ Luncheon—Third Monday, at 12.15, of each month, at the Arctic Club, corner Third Avenue and Jefferson Street.

Spokane—INLAND EMPIRE ASSOCIATION OF THE M. I. T., Philip F. Kennedy ('07), Secretary, 01228 Hamilton Street, Spokane, Wash.

Springfield—TECHNOLOGY CLUB OF THE CONNECTICUT VALLEY, Ernest W. Pelton ('03), Secretary, 77 Forest Street, New Britain, Conn.

Steelton—TECHNOLOGY CLUB OF CENTRAL PENNSYLVANIA, E. L. Chapman ('01), Secretary, Box 764, Harrisburg, Pa.

Syracuse—M. I. T. CLUB OF CENTRAL NEW YORK, H. N. Burhans ('07), Secretary ,227 McLennan Avenue, Syracuse, N. Y.

Urbana—TECHNOLOGY CLUB OF THE UNIVERSITY OF ILLINOIS, H. N. Parker ('94), Secretary, University of Illinois, Urbana, Ill.

Washington—WASHINGTON SOCIETY OF THE M. I. T., Walter J. Gill, Jr. ('04), Secretary, 1306 Rhode Island Avenue, N. W., Washington, D. C.

Worcester—TECHNOLOGY ASSOCIATION OF WORCESTER COUNTY, Louis E. Vaughan ('02), Secretary-Treasurer, 4 Fenimore Road, Worcester, Mass.

FIXED LUNCHEONS

Birmingham—Southwestern Technology Association at the Turnverein, Saturdays at 1.00 p. m.

Buffalo—Technology Club of Buffalo, at the Buffalo Chamber of Commerce, on the first Thursday of every month at 12.30 p. m.

Chicago—Northwestern Association of M. I. T. at Grand Pacific Hotel, Thursdays at 12.30 p. m.

Cincinnati—Cincinnati M. I. T. Club in the Main Dining Room, at the Bismarck, Mercantile Library Bldg., Walnut Street, Tuesdays from 12.30 to 2.00 p. m.

Denver—Rocky Mountain Technology Club, Wednesdays, from 12.30–1.30 p. m., at Colorado Electric Club, Chamber of Commerce Bldg., Denver, Colo.

Indianapolis—15th day of each month. Place announced each month.

Los Angeles—Technology Club of Southern California, at the University, on the first Wednesday of each month.

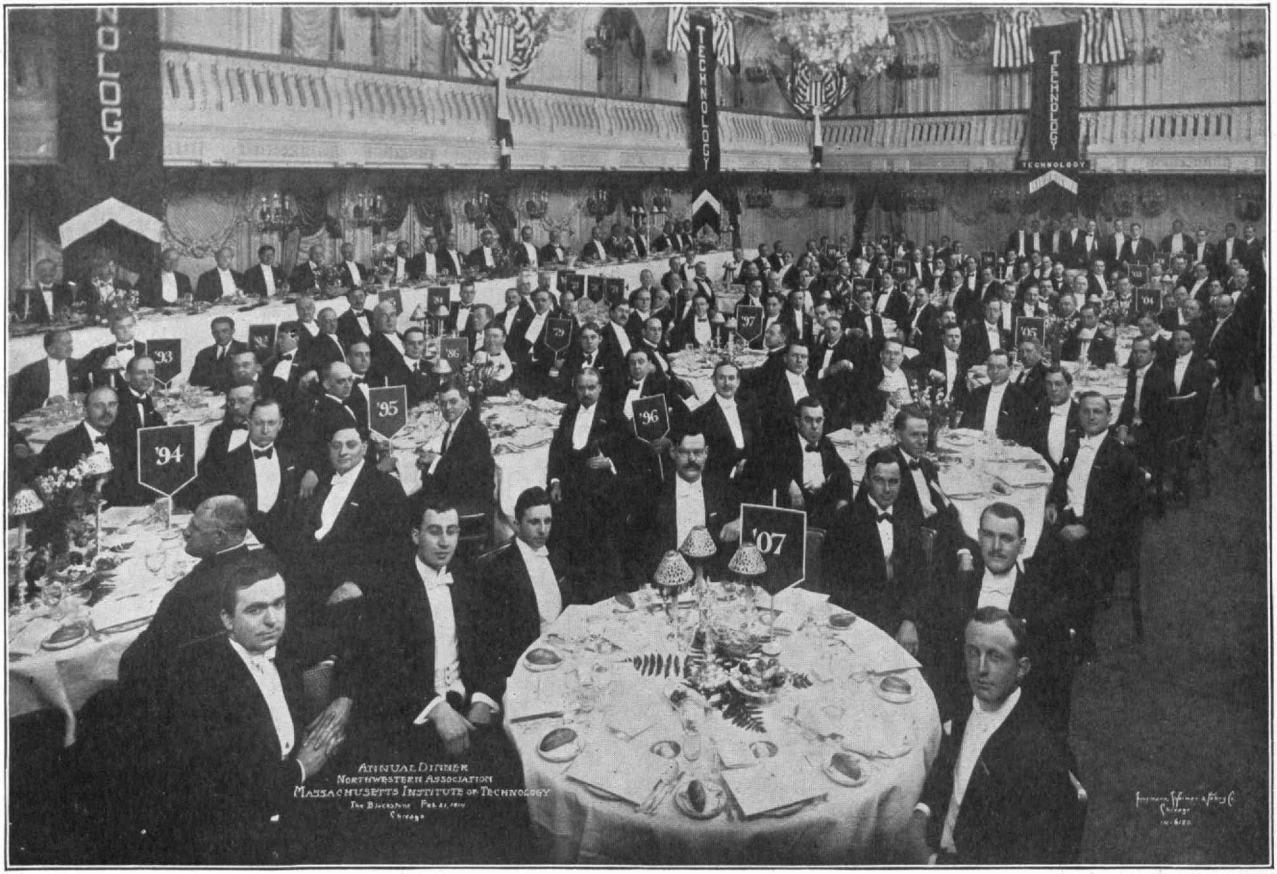
San Francisco—Technology Association of Northern California, at Jules Café, Tuesdays.

Seattle—Technology Club of Puget Sound, at the Arctic Club, corner Third Avenue and Jefferson Street, third Monday of each month, at 12.15.

SUSTAINING MEMBERS OF THE ALUMNI ASSOCIATION

Edward D. Adams, '69
Frederick H. Adams, '11
Louis W. Adams, '03
Orton W. Albee, '93
W. B. Allbright, '78
Charles E. Allen, '07
Arthur C. Anthony, '86
C. B. Appleton, '84
Charles M. Baker, '78
J. C. T. Baldwin, '88
William L. Benedict, '80
Edgar M. Berliner, '07
Zenas W. Bliss, '89
H. L. Bodwell, '98
Philip D. Borden, '73
James C. Boyd, '93
H. G. Bradlee, '91
F. H. Briggs, '81
H. F. Bryant, '87
Leonard T. Bushnell, '05
G. H. Capen, '83
George E. Claflin, '88
Eugene H. Clapp, '95
Whitney Conant, '68
F. L. Connable, '93
Joseph W. Crowell, '04
Edward Cunningham, '91
William L. Curry, '99
William C. Cushing, '87
Herbert Dabney, '75
J. R. Daniell, '97
William C. Dart, '91
Alvan L. Davis, '98,
E. H. Dewson, '85
Franklin W. Doliber, '97
George A. Draper, '76
Irénée duPont, '97
P. S. duPont, '90
N. Durfee, '89
Charles W. Eaton, '85
Edward L. Edes, '09
Merton L. Emerson, '04
A. H. Eustis, '03
F. H. Fay, '93
S. M. Felton, '73
Arthur B. Foote, '99
T. A. Foque, '88
Edward V. French, '89
Charles W. Goodale, '75
George F. Goodnow, '88
George E. Hale, '90
G. W. Hamilton, '80
George E. Harkness, '96
Charles Hayden, '90
Schuyler Hazard, '90
J. B. Henck, '76
Franklin W. Hobbs, '89
Frank W. Hodgdon, '76
F. C. Holmes, '92
Charles F. Hopewell, '94
Arthur T. Hopkins, '97
H. J. Horn, '88
Henry Howard, '89
C. W. Hubbard, '09
S. K. Humphrey, '98
H. Jaques, '77
Carl F. Johnson, '01
Daniel S. Johnson, '00
Paul Johnson, '98
Arthur W. Jones, '88
E. A. Jones, '87
Theodore Jones, '86
Chas. W. Kellogg, Jr., '02
H. S. Kimball, '91
William J. Knapp, '06
Van Rensselaer Lansingh, '98
W. H. Lawrence, '91
E. H. Laws, '96
F. M. Learned, '76
C. M. Leonard, '00
Theo. J. Lewis, '76
Philip Little, '79
Fred W. Lord, '93
Frank W. Lovejoy, '94
W. E. McCaw, '92
A. D. Maclachlan, '96
Charles T. Main, '76
H. C. Marcus, '01
Austin B. Mason, '10
S. D. Mason, '70
George H. May, '92
W. H. Merrill, '90
H. M. Montgomery, '79
Everett Morss, '85
Henry A. Morss, '93
P. A. Mosman, '87
William J. Mullins, '85
William B. Page, '93
F. A. Park, '95
J. Scott Parrish, '92
E. E. Pettee, '92
Raymond B. Price, '94
R. H. Richards, '68
T. G. Richards, '94
Richard A. Robertson, '78
T. W. Robinson, '84
E. W. Rollins, '71
J W. Rollins, '78
Montgomery Rollins, '89
H. F. Ross, '82
Guy H. Ruggles, '06
John C. Runkle, '88
Norman F. Rutherford, '96
Richard E. Schmidt, '87
George O. Schneller, '00
Lewis J. Seidensticker, '98
A. Forrest Shattuck, '91
F. N. Smalley, '96
Frank A. Smythe, '89
Frank G. Stantial, '79
G. F. Starbuck, '97
William C. Stearnes, '71
Eben S. Stevens, '68
Charles A. Stone, '88
Henry N. Swett, '81
Gerard Swope, '95
H. P. Talbot, '85
Albert W. Thompson, '96
J. P. Tolman, '68
J. H. Towne, '90
Walter D. Townsend, '76
L. B. Turner, '05
W. Lyman Underwood, '98
Henry M. Waite, '90
Albert C. Warren, '74
Leonard C. Wason, '91
K. W. Waterson, '98
Edwin S. Webster, '88
Robert S. Weston, '94
George C. Whipple, '89
Willis R. Whitney, '90
F. H. Williams, '73
Sidney Williams, '87
Arthur L. Williston, '89
Kenneth F. Wood, '94
F. E. Woodbury, '89
Henry E. Worcester, '97
A. G. Zimmerman,'94

March 18, 1914



BANQUET OF THE TECHNOLOGY CLUBS ASSOCIATED

Hotel Blackstone, Chicago, February 21, 1914

The Technology Review

VOL. XVI APRIL, 1914 No. 4

HOW TECHNOLOGY HELPS THE COMMUNITY

The influence of the Institute has been a factor of progress in almost every department of domestic and business life and the plans of the Alumni Council presage an even greater usefulness

The Alumni Council of the Massachusetts Institute of Technology took up a few days ago the question of coördinating the work that the Institute is doing and can do for the people as represented by the national government, the state and the city. It is a striking fact that the efforts of Tech to help and the work accomplished in the past are known but in part to the Faculty itself. The fact is that from its very beginnings Technology has had much to do in a quiet way with the scientific policy of important public affairs and commissions, and its professors have been constantly in demand for advice more or less formal. The sum total of such services is enormous.

This helpfulness is by no means confined to the Institute. The other colleges and universities have contributed their quota freely and with the best grace, but in that its courses are along the lines of applied science, Technology comes into direct contact with the more pressing of public problems. It is training young men for public service work as well as for private corporations and it is not to be wondered at that it has borne so large a share of the burden.

One fact that has been brought out with force is the statement that in the West the institutions of learning are potent factors in the policy of state and city. But it is true that what has there come so recently as an inspiration, and an inspiration which is

highly to be praised and which seems to those communities so novel, has in the East become so much a part of the regular occupation of colleges and technical schools that it can no longer be considered novel, and has lost its news value to local papers.

It is worth while, therefore, to bring together some of the matters of public benefit from an institution like Technology. No one has been more direct in his statements that colleges depend upon the community for their support than President Maclaurin, and the school that he represents does not shrink from an exposition of this portion of its assets.

In the first place the first duty of an institution is to train its students so that they shall be helpful. There is no need here to argue the success of this in this instance but it is worth mentioning in order that it may not be overlooked. A college that does nothing more than to send out dependable young men into the industries of the nation is doing a work most highly to be commended, even if it should stop there. Then the group of trained men that any institution must gather to itself, if it is to be successful in teaching, forms a force in the community, the influence of which in culture and civilization must not be underrated. Every such Faculty helps its city or town, even if no demand should be made upon the members for help from their special stores of knowledge.

With these two forces noted, it is proposed briefly to review the relationships that have existed in the past between Technology and the different governing bodies.

Health is a matter that lies next every man's heart, and it is worth while to glance over some of the contributions made by this school to the public health of all parts of the country. Every one knows of Prof. William T. Sedgwick, the head of the department of biology at Technology since it was created in 1883. Sanitary engineering is another department which comes into close contact with health. The two have moved together side by side in harmony, one taking the engineering problems of sanitation, which every day become more important, while the other has assembled the many varied lines of health work that must today be combined in making the efficient health officer.

Prof. Sedgwick's work for the community is great both in potentiality and quantity. There has hardly been an important health investigation in the country that has not called on him for assistance. His services have been sought in connection with water

supplies of cities on the West Coast, typhoid in Pittsburgh or Washington, Potomac oysters and the famous eggs of Trenton. His opinions and his public utterances have been things for health authorities themselves to tie to.

The relations of Technology to the Commonwealth of Massachusetts began almost the moment Technology was founded, and the first President, Rogers, was prevailed upon by Governor Andrew to be the first state inspector of gas meters and gas. The foundations for good work were laid, and it was easy afterwards to establish the commission that now has the care of lighting both by gas and electricity.

When Massachusetts established in 1869 its pioneer State Board of Health it turned to Prof. William Ripley Nichols for aid in sanitary chemistry, and for the remainder of his life this eminent authority was consulted frequently, not by this state alone, but by others. In connection with his public work which often demanded laboratory experiment, the laboratories of Technology were indispensable. The principal assistant of Prof. Nichols in these investigations was Miss Ellen Swallow—afterwards Mrs. Richards—a graduate of the Institute. The work with reference to water supplies which was done by this young student and continued through her life, in which Dr. Drown had worthy part, has been the foundation stone for the practices of the whole world.

Such things as these had already established the place of Technology as an adviser to the community—and to other communities—before there was established in 1883 the department of biology with Dr. Sedgwick at its head. It would be difficult to find any single agency more active in the technical work underlying the administration and practices of public health than this one.

No sooner was the Department of Biology established than its head was called upon by the then-existing Board of Lunacy and Charity for data with reference to the relative poisonous qualities of the two kinds of illuminating gas, the old "coal" gas and the new "water" gas. The investigation was the first of its kind undertaken anywhere, and on its results there was founded the possibility of legislative protection of the health of the people. The work was in a new field. Prof. Sedgwick was a pioneer, and the investigations carried with them considerable personal risk.

It was only a little while before the State Board of Health established its experiment station at Lawrence, and it called on Tech-

nology for special researches for which its laboratories alone were fitted. For eight years there was carried on fundamental work in microscopy, bacteriology and sanitary science.

Enquiries were taken up regarding the purity of water, milk, and ice; gas was standardized while sewage and typhoid and many other topics closely related to the life and health of the people were discussed.

Thus Massachusetts was started in the right direction and even when the State Board had its own laboratory the work that Technology was doing for it did not cease.

In 1892 the course of instruction at the Institute was modified so that it could minister directly to the needs of public health and in this Technology has scored a great success. There was a demand for men in public work who could advise and construct, who knew the engineering as well as the bacteriological side, and who were competent to keep pace with the growing science of sanitation. With a couple of hundred of its alumni in the field in public health work, what the Institute has been able do in the way of advice and assistance has been enormous. It has been able to get at the question in point; if this is a new question, it has been able to attack it intelligently and authoritatively. Technology is accustomed to calls upon its resources; it has men of experience, libraries, laboratories, and in short is an arsenal whence may be drawn in time of need the weapons and the experience for fighting disease or for the newer work of prevention.

In 1903 a Sanitary Research Laboratory was established, still the only one connected with an educational institution. This has been of greatest public benefit in helping solve the important problems of filters and of means of disposing of, treating or purifying sewage.

The Institute has set forth publicly what should be of the greatest consequence to the community in Massachusetts, an elaborate and practical plan for the sanitary disposal of the river of sewage of the Metropolitan District, now being poured unpurified into Boston harbor. Its men have given valid opinions on the disposal of the other wastes. That the college has not been in closer relationships to these matters is not because it has not been ready to help, but because the time for such advice seemed not opportune.

Technology is continuing its helpfulness. Its men have devised a plan of coöperative health administration and have at their own

risk carried it out, one which is destined to benefit the community almost beyond measure. It substitutes for local work of the quality usual with inexpert officers, a health administration for rural municipalities whereby the best in every way is at their disposal. Technology has stood behind this movement which looms big for the future. Then again in the preparation of engineers for health work, the coöperative school with Harvard is destined to become a most important factor. Technology contributes the engineering training; Harvard, the study of medicine and experience in hospital work. Each gives the training that it is best fitted to give and the community benefits.

It is interesting to know that Technology first applied bacteriology to the canning industry; it determined for the Charles River Basin Commission the effect on the local forms of life of the change from salt water to fresh; and at Fresh Pond, determined the relation of the mosquitoes of the marshes to malaria in adjoining towns. In questions relating to milk, eggs, or oysters, it is to one of the instructing staff of this department at Tech that one applies, and in its laboratories many of the fundamental investigations have been undertaken.

Turning to the Department of Civil and Sanitary Engineering, it will be found that the relationships between the Institute and the community are large, although from the less popular nature of the work in general they have been less noticeable. Fifty years and more ago Prof. Henck had a large share in the laying out of the Back Bay. In the early seventies Prof. Nichols, '70, interested himself in the water supply from the physical side also. He gave early attention to filtering beds and ground waters, and measuring the water table from existing wells, being the earliest expert in such matters in the state or country. The first bacteriological work on water connected with a public supply was by G. C. Whipple, '89, later an engineer in New York, within a few years appointed head of the Sanitary Engineering Department at Harvard, and under the new coöperation coming again to the Institute. His work as well as that of Allan Hazen, '89, an engineer who was first a chemist, was pioneer work.

Some of the public items in which the Tech alumni have had a leading share are constructions at Springfield, Lynn, Albany, Philadelphia, Pittsburgh, Harrisburg and Columbus. New York, Ohio, Minnesota and Kentucky have drawn on the list for the

chief engineers in the State Boards of Health. The great works of the country have in good measure had alumni in charge, E. G. Clarke, '70, and H. A. Carson, '69, were the engineers of the great sewer improvement works of metropolitan Boston, while J. Waldo Smith, '87, has been chief engineer of the great New York aqueduct with J. R. Freeman, '76, and T. H. Wiggin, '95, to aid him. C. E. Davis, '93, was his department engineer, till recently when he was selected by Mayor Blankenburg to head the Water Bureau in Philadelphia.

It may be argued of course that this work is professional and for remuneration, which is really true, but on the other hand, in addition to the fact that the school that turns out men of the hour has done good work, it is true that every such person gives liberally of his time for the community's good.

Then again there are direct demands upon the Faculty and alumni, such as that which cared for the topographical survey of the state, an unpaid board, upon which President Walker and Prof. Whiting served, while Dean Burton served gratuitously on the Town Boundary Commission for several years. When the latter went over to the Harbor and Land Commissioners it was still in the hands of alumni, H. B. Wood, '76, being assistant engineer. F. W. Hodgdon, '76, formerly chief engineer for the commission, is now with the port directors.

It is interesting to note that in the city of Boston, three out of four superintendents of streets, Carter, Emerson and Rourke, are from the Institute, also the chief engineer of the sewer division, Dorr, and many others, while the town engineer of Brookline, French, is also a Tech graduate. The Cambridge bridge and dam were in the hands of Tech graduates, President Pritchett making the survey and first report. Among the men whose names have been met rather frequently are Turner, '70, Southworth, '77, and Swain of the same year. For the recent grade crossing elimination work Prof. C. B. Breed, '97, was commissioned by the cities of Lynn, Quincy and Taunton to look after their interests in the plannings. Rollins, '78, performed like service for the Forest Hills station improvements while the Readville work was cared for by Hardy, '70.

Prof. Breed as a good citizen and without fee, had made an extended investigation of the nature of protection against fire in the schoolhouses of his own city, Lynn, making recommendations

which have found their way to Boston for the improvement of schoolhouses here.

In addition to this work by alumni and Faculty, the place of the thesis should not be forgotten. Primarily this is for the benefit of the student, but at Tech, subjects of public importance are selected. One of those of last year was the consideration of means for avoiding pollution of the harbor by the sewage of Beverly, in which an excellent report is at the hand of the town authorities without cost. Many are the papers on the improvement of water or sewer systems of the students' home towns, all important for the public good.

The Department of Physics is constantly in demand for the help it can give in solving questions having a bearing on commercial problems. For instance, with the interest that there is in refrigeration, it is a bad week when some new substance is not offered to the laboratories for a determination of its inactivity in radiation.

Technology was the first institution in the country to establish a physical laboratory for the purpose of teaching the principles of physical measurements. Such measurements are now known to be of highest consequence in industrial arts. The Institute first recognized in this country the need of instruction in electrical measurements. In 1882 Technology was the pioneer in establishing courses in electrical engineering, a matter so important that today there is a flourishing department having this study for its purpose. A laboratory of heat measurements was installed in 1884 and when the industries came to realize the need of knowledge in this specialty it found the Institute already preparing men for their use. Another pioneer movement was the establishment in 1901 of a course leading to degrees in electrochemistry, and two years later a laboratory wholly devoted to this work was opened.

The Department of Physics has rendered service in the determination of the efficiency of petroleum burners and in the study of tones (leading later to the establishment of the musical pitch used in Boston and elsewhere). The telephone has been a fertile source of investigation. A study was made of the accuracy of the alcohol thermometer. Friction of leather belts was determined long ago and the constants here obtained have never been superseded, while the bomb, used in determining the heat value of fuel, was improved and made practical in this laboratory. By its use, which is now well-nigh universal among institutions, public and private, using quantities of coal, the price of the fuel is dependent, not on

cubic contents or weight, but heat-production. The facts determined at the laboratory after the announcement of the discovery of the X-ray were important in placing on a firm foundation its therapeutic use in local hospitals. Such work as that indicated by these items have been performed largely by students under supervision, and the results have been freely given to the world through the technical publications.

Achievements of the instructing staff show how important such a technical school is to the business community. Studies have been made of methods of improving the lighting of factories and schools, furnishing better work through better working conditions. The lighting of the Art Museum was a Technology study. The first standardizing of concrete fire-proofing and the suggestion of fire-retardants has been a part of its work. There has also been the better protection of theatres, assistance in revising building codes and the invention of asbestos wood. For the subway, studies were made at the Institute to decrease the fire risk.

Insulating boilers and pipes has come to be an important industry. Technology investigations have resulted in the exposing of many humbugs and the establishment of the scientific rating of good systems. The insulation for cold storage has been standardized here and the testing of fuel as already noted. Prevention of steel from rusting has been another line of development.

In addition to the determination of certain constants, the melting points, heats of combustion, coefficients of thermo-conductivity, etc., have been determined. The value of cork for insulation in its various conditions has been one of the refrigeration studies; also the value of mixtures of asbestos and magnesia. Some of the properties of stone and cinder concrete have been determined, these relating to conduct under tests by heat, while bricks have likewise been tested for their melting points.

In matters relating to architecture, Technology has borne well its part, the former head of its department of architecture having served for ten years as a member of the Boston Art Commission and eight years as advisory architect to the mayors of the city. The members of the department are constantly in demand as judges in one capacity or another, perhaps in the award of a prize or again in the selection of the best design in a competition.

It was in such work with reference to the Massachusetts Pan-

American Exposition building that Prof. James Knox Taylor recently served.

A service that has been extremely important lies in the fact that nearly a score of architectural departments all over the country have Tech graduates at the head or in important positions, Illinois, Minnesota, Texas, Michigan, Carnegie Tech and Pennsylvania State College being in the first named class.

Mechanical engineering is a department that deals with the practical aspects of life in public and private constructions and machinery.

The former head of the department of mechanical engineering, Prof. Lanza, was consulting engineer to the state, the cities of Boston and Lynn and the town of Brookline, while his successor, Prof. Miller, has been consulting engineer on state and city boiler rules and has been civil service examiner for several years. Prof. Schwamb has served his own town, Arlington, as a member of the School Committee, as water commissioner (eight years) and as one of the Board of Public Works for half that time, while the secretary of the Institute, Prof. Merrill, who belongs to this department, is on the School Committee of Belmont. Prof. Woodbridge was consulting engineer to the United States Government. Two other members of the staff care for the water and electricity of their home towns, while one of the younger men, a graduate of the Institute, is the expert for the technical committee of the Automobile Club of America.

What the department has done for mechanics would be a long story, for it is equipped in its laboratories with means for testing materials in every possible way. At no time can one go through the rooms without seeing operations for securing new and important facts. The early tests on beams are classical. Here cement in all its combinations is tried for strength, metals for their qualities bricks and stone for strength. There are boiler tests, wind pressure experiments, investigations of engines and a great variety of matters. Here was set up the earthquake machine to give information as to the effect of similar torsions and vibrations on piers and constructions. The theses of the students are, ten per cent. of them, worth permanent preservation because of the additions which the investigators make to existing knowledge.

Mining and metallurgy is another department where the processes are technical and the work of such an institution shows in the

placing of young men, generally in other communities where by their knowledge they may benefit the world at large by adding to its products. In ore dressing telling advances have been made by Prof. Richards, head of the department, who by investigation, travel and study has developed the specialty till now men come from the four corners of the earth to learn of American methods. The department has graduated men at the head of the development of methods and of educational work. Some of these are at the head of their profession, among them Stafford, '73, president of the Tidewater Steel Company, Wood, '77, president of the Maryland Steel Company, and Robinson, '84, of the Illinois Steel Company. Colonel Lyle, U. S. A., '84, was instrumental in establishing the standards for guns, cannon and armor plate, while Howe, '71, and Sauveur, '89, are at the heads of departments in Columbia and Harvard respectively. Newell, '85, was the man who developed the Government Reclamation Bureau, a work of highest originality and importance.

In geology a splendid opportunity to be of real value to the Commonwealth was suggested in a survey of the state. The geologists of the Institute did the best they could towards the securing of an Act which should give Massachusetts an opportunity to know the extent of her resources under ground, but no action has thus far been taken in this exceedingly important matter. Prof. Crosby, now emeritus, has been and is today of the greatest importance when the conditions underlying the surface must be known, and in the subway, in the New York aqueduct, and in hundreds of localities from Maine to California and from Alaska to Mexico his presence and opinion have been and are demanded.

In one of the broadening departments, that of economics, at the Institute, there is a goodly amount of public work to the credit of the Faculty. Prof. Davis R. Dewey has served the nation in special inquiries like that which resulted in the report on "Employees and Wages," in 1903, a work for the census, which was an effort to present a clearer analysis of the remuneration of workmen so as to avoid the ambiguities consequent on current systems, and for a number of years thereafter he was a member of the Census Advisory Committee. For the Commonwealth of Massachusetts, Dr. Dewey was chairman of the special commission on the unemployed, in 1894, making a report to the Legislature suggesting methods of relief; two years later he was a member of the commission to inves-

tigate charitable and reformatory interests of the state and in 1903, he was one of the Commission on Relations Between Employers and Employees. One of the items of public interest in this investigation was the question of child labor and the compensation of workmen who were injured. For the city of Boston, Dr. Dewey was for nine years a member of the department of statistics. In addition to these labors he has been secretary of the American Statistical Association for twenty years and the editor of its publications, in which offices he has been succeeded by Prof. Carroll W. Doten, who has been expert agent for the Census and later chief investigator of the Massachusetts Commission on Compensation for Industrial Accidents.

The chemical department is important at Technology, due to the close relations between this science and industrial processes. Much of the good work has been in the furnishing of men who are competent to take up the problems of various manufactures, and it is important that such men should be properly trained, for it has truly been said that the chief chemist may make or break his mill according to his understanding of the advance in methods.

To this department belongs much of the work of Mrs. Richards and Dr. Drown, together with that of Prof. Nichols, who out of the chaos of chemical methods in the subject, established a system which could permit of the securing and use of the data obtained. The whole undertaking has been for more than twenty years in the charge of a Tech alumnus, Mr. Clark. Prof. Woodman for the Government has conducted important researches in the interest of pure and economical food, while in their private capacities all the senior members of the staff have served the public welfare in larger or smaller ways.

Prof. Gill has been expert for Public Works Department of Boston, the U. S. Department of Agriculture, the Fish and Game Commission and for various towns and corporations with respect to quality of water, illuminating gas, and for the State Board of Health and the Metropolitan Water Board. Prof. Fay has carried on investigations of greatest importance touching the failure of steel rails. Another of his investigations has been as to the cause of corrosion in brass condenser tubing. Prof. Walker has had wide scope in his work, one item of importance being the question of protective coatings for iron and steel and the corrosion of these metals. He has served the Cambridge Board of Health, has made

important contributions to such industries as brewing, galvanizing and glass making and the manufacture of patent leather.

The Research Laboratory of Applied Chemistry is one of the strongest links between Technology and the industrial world, and under the directorship of Prof. Walker it has undertaken many investigations at the request of business firms. Iron, steel, metals, corrosion, galvanizing and other matters have been taken up, investigated and the results promptly published for the benefit of the world. The various members of the staff have been experts in different lines, Dr. Mulliken has been interested in dyewoods, Mr. Rolfe in sugar, and the latter not long ago was sent for post-haste by a plantation in Cuba to straighten out some technical difficulty. Prof. Talbot, head of the department of chemistry, has served in advisory capacity in connection with the High School of Commerce, B. Y. M. C. A., the American Chemical Society and the American Society for Testing Materials. His greatest work, however, has been the quiet establishment and administration of a department unequalled in the country for its value to important industries.

Then, again, the laboratory of chemical research, working with endless patience, has had committed to it for one single piece of work the redetermination of the molecular weights of the elements, an investigation of the most fundamental importance and of the highest value.

What is doing in the Department of Electrical Engineering is pretty well understood by business men, and the prominent recent items need merely to be mentioned by name. There has been the vehicle research work which furnishes the only scientific measure of efficiency between horsedrawn vehicles and the different class of self-propellers. The department has taken up the subdivision of the nickel, to see how far a street railway is justified in hauling its passengers for that coin, and today it is engaged in a rating of the economy of the delivery department of Macy's great store in New York. It is a new departure for firms of the kind to seek opinion outside their own experts, and is likely to prove but the entering wedge of a new line of assistance that the technical school laboratory can afford to the business corporation.

Some of the items in the past refer to standards, the accuracy of formulas used in computing insulation for high voltage cables, the art of breaking circuits, the phenomena of high frequency, of long distance transmission, the kind of poles that will be best, and

the like. All of this points to the closer relations between electrical business and the laboratory like that of Technology, that is fitted to consider all kinds of problems, and where if the research needs the aid of some other department, it need not halt a moment for lack of facilities for perfect understanding. This kind of research looms large on the horizon. It is in many phases entirely new, but upon it depends much of the future industrial supremacy of the country.

Then there is the Society of Arts, which in its earlier days was the medium of exchange between the investigators and the people. Its place has now been taken up in part, it is true, by dozens of technical publications which did not then exist, but the part that it has played by its meetings and its publication in the dissemination of knowledge will not soon be forgotten.

JOHN RITCHIE, JR.

What Sustaining Members have Done

At the beginning of the present fiscal year the Alumni Association owed a sum approaching $1,500, which was a cumulative indebtedness covering two or three years, and partly due to the extra expense attending the meetings of the Technology Clubs Associated last year and this. In view of the many increasing alumni activities which promise to be made of greatest benefit to the Institute, if moderately financed, this "sustaining membership" was suggested, and enough men have already subscribed to place the association on an even keel. It is not likely that this assistance will be required for more than two or three years, as the association is growing in size and strength, and in a business way it will soon be able to take care of itself. The temporary help, however, has been of the greatest benefit.

A list of the sustaining members is printed in the first pages of the REVIEW in connection with the local and class alumni organizations.

A Championship Wrestling Team

The Technology wrestling team, which has had an unconquered triumph for two years, met the Yale wrestling team March 14, and won the match with the score of 16 to 13. This gives the Technology team the eastern inter-collegiate championship.

COÖPERATING WITH THE STATE

An Alumni Committee appointed by the Council for this purpose—Publicity in foreign countries discussed—President Maclaurin to visit Alumni Associations on the Pacific Coast

The March meeting of the Alumni Council, held at the Engineers Club on the 23d, brought together nearly fifty members of the Council, some of whom had recently been appointed to represent local alumni associations.

The questions discussed were of the keenest interest and covered a wide spread of activity. What this kind of active, effective work means to the Institute was voiced by Dr. Maclaurin, who, at the close of the meeting, made the statement that many of the policies of the Massachusetts Institute of Technology were being initiated by the Alumni Association through its representative body, the Council.

This statement was preliminary to his announcement that the Executive Committee of the Corporation had on that day voted to establish a course in business administration, which was suggested and outlined by a committee of the Alumni Council—a matter of news which will be received with hearty approval by the readers of the REVIEW.

President Whiting announced the appointment of a committee to investigate the ways in which the Institute may be of service to the state. The personnel of this committee is as follows: Mr. J. F. McElwain, '97, chairman, president W. H. McElwain Company; Judge John F. Meaney, secretary to Governor Walsh, representing the Commonwealth of Massachusetts; Prof. D. C. Jackson, consulting engineer, in charge of the Department of Electrical Engineering at the Institute of Technology, representing the Faculty of the Institute; Mr. M. C. Brush, '01, second vice-president Boston Elevated Railway Company, representing the public utilities of the state; Mr. Robert G. Valentine, industrial counselor, formerly Commissioner of Indian Affairs in the Department of the Interior at Washington; also Jasper Whiting,

'89, president of the Alumni Association, and Walter Humphreys, '97, secretary of the Alumni Association, *ex-officio* members.

Mr. Whiting stated that the committee had met, at the invitation of the governor, in the Council Chamber of the State House, the Saturday before, and had been addressed by the governor and by President Maclaurin. The importance of this movement is attested by the interest shown throughout the state, and the fact of the close connection which already exists between many of the state departments and the Institute.

Perhaps the most important matter of business coming up at the meeting was the question of making the Institute better known in foreign countries, especially in those lands from which we are now receiving but few students.

Mr. F. T. Yeh, '14, was called upon by President Whiting to speak with reference to the point of view of his country. The young men who come to Europe and America are largely sent by the Government, which is devoting to the purpose the large amount of Boxer indemnity money returned to China by the United States Government. The number of students is large, and the increase in number is shown by the tally at Tech, ten students in 1899 and forty-two today. "The future of China," said Mr. Yeh, "depends on the quality of the men who are receiving this education. These come now mostly to the United States, there being a thousand such students here, and the Institute is the favorite place for those desiring scientific training." The students have already realized the benefit to their countrymen that a knowledge of the Institute will effect, and they have already sent to China on their own account translations of portions of the catalogue of the Institute that seem suitable for the purpose.

Referring to the field in South America for technical men, President Whiting introduced first President Maclaurin and then Commissioner of Public Works, Louis K. Rourke. Dr. Maclaurin noted how South America looks to Europe for its men and its manufactures, and suggested that the way to alter this relationship is to bring bright young men to this country for their education. Mr. Rourke spoke from an experience of more than a dozen years in South American countries. "The most sensible thing that has yet been done," he said, "was when the Chamber of Commerce of Boston sent its delegation to South America." Thus far it has been the custom to treat South Americans with

a patronizing air, but before results can be secured, this attitude must be changed. "There is no place in the world," he continued, "with better prospects for the engineer."

The Alumni Council voted that a committee be appointed by President Whiting to take up the matter of foreign publicity for Technology.

Among the other points taken up in the meeting was that of the best method to increase membership and the collection of dues. The president is to appoint a standing committee of three members to take care of these matters.

Mr. Litchfield, '85, field manager of the Alumni Association, made a report of his visits to Chicago, Cleveland and Pittsburgh, and stated that he was leaving that evening to visit Buffalo, Rochester and Syracuse.

Mr. A. C. Dorrance, '14, president of the Institute Committee, told the Council of the plans for the coming Tech Show, and it was voted that April 16 be designated as Alumni Night at the Boston Opera House, and a committee was appointed to look after the alumni interests.

President Whiting spoke of the coming house-warming of the enlarged Technology Club of New York, and suggested that the Council send some article of decoration as an expression of the interest of the Alumni Association in the work of the club. It was voted that a copy of the Institute seal of heroic size be presented to the Technology Club of New York by the Alumni Association, and Dr. Maclaurin was requested to go to New York to present it.

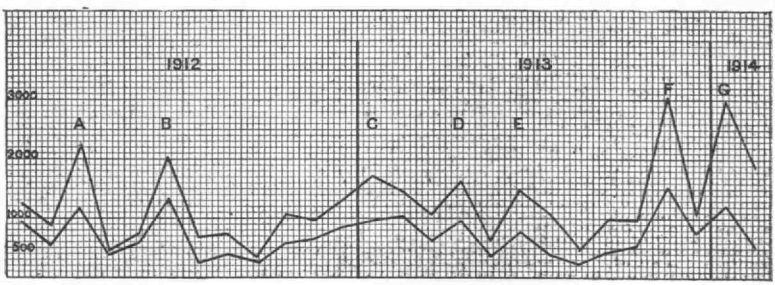
Lawrence Allen, '07, reporting for the Committee on Assemblies, stated that Symphony Hall had been taken this year for the annual Commencement celebration of the alumni, and that a special pageant was being arranged, which would be very different from the previous pop concerts, and even much better than the Potlatch of last year.

One of the most interesting features of the meeting was the talk made by John Ritchie, Jr., on the topic of Institute publicity.

In outlining the work of the news service of the Institute, Mr. Ritchie noted that in 1912 the effort of the service had been to get into touch with local papers and the correspondents in Boston including the Associated Press, and during last year to extend relations to other papers over the country. The present year,

while keeping the other contacts, is to have for its special line of development the strengthening of the service in furnishing suitable material to technical papers.

The run of publicity was illustrated by means of a graph, which is here reproduced, a feature of which is the increase of out-of-city publicity the second year. The vertical scale presents column inches, the horizontal dimension is time, the breaks in the lines being a month apart. The lower graph is publicity in Boston, the upper one, total publicity. The noticeable point here is the increased distance between the lines showing greater proportion of out-of-Boston notices.



The heavier vertical lines are at intervals of two months. Peak A represents the announcement of the gift by "Mr. Smith"; B, means Class Day, Commencement, here increased by the announcement of the Vail library and some other items; C indicates the great reunion in New York; D is the Tech Show, the Pratt will and the Walker Memorial Committee report; E is Class Day and Commencement; F is the announcement of the plans and G the announcement of the coöperation with Harvard.

Elmer E. Dawson, a senior, presented a report on the Institute Coöperative Association, as chairman of the committee appointed by the undergraduate Institute Committee. This matter has been under investigation by the graduates for several years, and the present report treated the matter exhaustively and clearly, leaving no doubt of the necessity of reorganization. It was voted that the president should appoint a committee to consider this report, and make recommendations to the Council.

It was announced that President Maclaurin would make a trip to the Pacific Coast in about three weeks. He will visit all the alumni organizations on the coast, a step that has long been contemplated.

WHEN WE WERE FRESHMEN

A new department of the Review devoted to reminiscence, serious or humorous, of experiences of students at the Institute

A freshman of '69 (he who entered the "Old" Institute in the fall of 1869), had a very different vista, physiographic and technical, from the freshman of 1913.

The Institute was then four years old, a very sturdy youngster, however, possessed of all the faculties, physiological and physical, required for mental activity and locomotion.

Dr. Eliot had just left the M. I. T. to lead Harvard into many years of influence. Dr. Storer was yet in charge of chemistry; Prof. Pickering presided over the physical laboratories, assisted by John Trowbridge, Jr. Charlie Cross was a fledgling professor and mixed up German, physics and mathematics. Ferdinand Bocher, delightful man he was, left us to go to Harvard, after cautioning the young men that it might be safe to use a "Pony" if it did not run away. "Billy" Atkinson (peace to his ashes) read good English to us, and was oblivious of the hilarity caused by his observations on the various historical essays in which he sought to interest us.

Dr. Kneeland, in addition to his duties as secretary, bursar and dean, and other things, gave lectures on several kinds of ologys.

John B. Henck, he of the field book, drilled us well in precision of instrumentation in field work, and in the use of spring balance for taking up slack in tape measuring. He was ably seconded by instructors drawn from the earlier classes.

I remember among others, William E. Hoyt, now on the New York Central Lines staff, and I. S. P. Weeks of '71, in after years chief engineer of the Burlington Lines in Nebraska, now passed away.

The Rogers' Building was then on the frontier of Back Bay residential growth; all beyond toward Brookline and the old Mill Dam road (Beacon street extended), being but partially filled, the made land extending to the present line of Exeter street, and on the windy days in Spring and Fall, when the dust flew fast and full,

the embryo instrument man had a hard time learning to adjust the transit or level.

Dr. Runkle was acting President, and inculcated the principles upon which the Institution was founded, and any freshman who came to dream or dawdle had a rude awakening at the semi-annuals, and we lost a few "Stars" at the close of the first half year.

One man, now nameless, "Did take chemistry," and answering a question in the chemistry exams., containing the expression "Prove beyond cavil" startled the examining instructor by suggesting that he did not know where "cavil" was and could not go beyond it.

The physics and chemical laboratories were deemed to be very much up to (that) date, and a beginning was made toward the metallurgicial laboratory. Such adjuncts as hydraulic or mechanical engineering laboratories were not considered except in the imagination of Prof. Watson.

The freshmen of '69 were all herded in the long room on the front of the fourth floor of the Rogers' Building, each man using one side of the old style double high desk. Here was passed the time not given to class recitations and here were formed the associations and friendships which, later on, moulded '73 into a compact force as a class.

For drawing we used a small drafting board. The instructor in drawing, I remember, was particularly pleased when a student became proficient in line drawing, and could crosshatch a large area with neatness and mechanical exactness.

Mathematics in the freshman year troubled some of the men a good deal, and I remember that one of our instructors was inveigled into solving the area of a triangle, where the sum of two sides was less than the third.

The freshmen of '69 came from all parts of the country, the radius of attendance reaching to New Brunswick on the east and to California on the west, the larger proportion coming from New England.

There was no social atmosphere. Many of the men lived out of town, coming and going daily, and there was no inclination to "get together" in any college sense.

The old Rogers' Building, being dubbed the "Tomb of the Dead Languages," of course anything except modern language in its various dialects, was excluded. There was an English literature

course, which enabled some easy-going souls to keep on the roster, and German and French had their regular innings, and occasionally Spanish looked in the class-room door.

Military drill was a requirement of the freshman year, and twice a week the battalion maneuvered in Boylston Hall, over the old Boylston Market, and the Tech uniform cap was a distinguishing mark of the freshmen and sophomores.

Technical education on Rogers' basis was a new departure, and students of the science, as applied practically, were expected to be enthusiastic in their desire for such a preparation for active life as the Institute was then undertaking to give. I do not think it too much to say that nearly every student who joined in '69 had a real definite purpose, and had chosen his professional path when he entered.

We all remember Mrs. Stinson, who had charge of the chemical laboratory supply room, and her marvelous faculty of remembering and placing students.

There was nothing of marked interest or importance to bring the class of '69–'73 into special preëminence during its freshman year, but during its second year, it got together and made its presence known by its activity as a class. It formed a class organization and celebrated the close of its second year by a dinner, which has been repeated every year since. It claims (and I think with substantial reason) the credit of initiating the original suggestion which led up to the formation of the alumni association.

Two of its members became prominent in Institute organization and work, namely, Dr. Williams, and Webster Wells, later professor of mathematics. Col. Henry L. Ripley, now retired, entered the regular army in 1876, and had a successful and soldierly career, both at home and in foreign service in the Philippines and in Cuba.

A. W. Johnston, '73.

General Manager, New York Chicago and St. Louis Railroad.

Direct from the backwoods of Maine, just past sixteen years old, never in a town larger than Bangor and green—"so green the very blades of grass turned pale with envy as he'd pass"—it pains me to think of it.

How did I happen to come to M.I.T.? Well it *just* happened. I had always been interested in mathematics, natural philosophy and such mechanical matters as were in evidence in a country

town of a thousand inhabitants, thirty-five miles from a railroad. I had always spent my spare hours in carpentry, or around a neighboring blacksmith shop or a small furniture factory, not to mention the old sawmill with its "up and down" saw. So when I ran across an article in one of the magazines on technical schools I was at once filled with enthusiasm to become a "mechanical engineer," although as I now recollect it my ideas were rather vague as to what constituted a mechanical engineer. A sort of glorified carpenter must have been about the limit.

However, all this was very much in the "air" until the first week in September, 1883, when I started on another year in our so-called high school. I attended the first three days and, disgusted with the new principal, a young medical student trying to earn a little money, I informed my parents that I was "going to Boston and study at Massachusetts Institute of Technology," so without any misgivings as to my ability to get into Tech, I started on the Saturday before the September examinations. After an all-day ride in a thorough-brace stage and an all-night train ride in a day coach, worried half to death for fear my pocket would be picked, or I would fall victim to some dreadful bunco game, against which I had been thoroughly warned by my maiden aunts, I arrived in Boston about seven o'clock on a Sunday morning. I knew nothing about Boston and had no one to meet me, and as I was to live in Hyde Park with a married sister I took a cab and was conveyed with my trunk to the old N. Y. and N. E. Station (on the site of the present South Station) where I found the station closed and no train out until noon. It became necessary therefore to deposit my trunk on the sidewalk and remain there in sight of it all that forenoon. It may well be imagined that I was not the happiest boy in Boston that morning. I would give a great deal for a picture of myself sitting on that trunk, a sixteen-year-old country gawk, six feet tall, thinner than I am now (and that's going some) wearing an ill-fitting ready-made suit, with long-legged boots made by our village cobbler, and blue with homesickness. I must have been a sight!

Nevertheless, I finally got out to Hyde Park alive and the next day presented myself at Rogers' Building for registration. Then came the examinations, arithmetic, algebra as far as quadratics, plain geometry, English(?), elementary French and geography, as I recall them. Well, somehow or other, I got through them; have always credited the examiners with much kindness of heart for I

certainly do not think my papers were really passable. God bless them, I say, especially dear old Prof. Niles who let me through in geography, a subject I never knew anything about. I remember that years afterward he told me that in all probability he did not look at my paper.

I was now a real Tech man and all puffed up with pride. Well do I recall the first day I put on my new uniform and rode into town for early drill, three mornings a week, then in "the hole in the ground" on Exeter Street. Oh, that uniform, skin tight trousers, tight fitting Eton jacket with two long and mysterious buttons at the small of the back, a little round cap without visor, a gold cord over the top and brass buttons; "Some class!"

And that drilling, with General Moore beating time with a piece of 2 x 4 scantling and Frank Locke, '86, now the honored president of the Young Men's Christian Union, in his gaudy major's uniform, four companies of boys, tall and skinny or short and fat, all dressed in that "dinky" uniform; who that participated can ever forget it! Especially glorious was the prize drill in Mechanics' Building at which our company (C) got all the applause but none of the prizes.

It is rather hard to appreciate the changes that have taken place since then. At that time Walker Building (known then as the *New* building) was not yet completed, so that for a month we escaped "chem. lab." and no one grumbled, at least no student. The Back Bay was in embryo and the shops just recently built, were away out in a vacant lot. We played base and football where Irvington Street Armory now stands. The hotels Westminster and Lenox were not even dreamed of and the favorite rendezvous was at "chapel" (The Brunswick Café). What is now the grill room was then a pool and billiard hall and I well remember being initiated into the mysteries of pool by Harry Clifford, who as a sophomore condescended to notice poor me. Gee! how I looked up to him! and still do.

Well do I remember the visits of Daniel Pratt, "The Great American Traveler," and the lectures (?) he gave from Rogers' steps or from a table in the "gym"! One such lecture in particular has always stuck in my memory, or at least the occasion and the title. "Ike" Litchfield, '85, presided and announced the subject of Daniel's lecture as "Evolution, Revolution, Bevelution, and Poetry, or the Scientific Involubility of the Tadpole." So far as

my memory serves that was a perfectly logical title for any of Daniel's outpourings.

The class of '87 has always been famous for doing things and for the loyalty of its members, and I am inclined to think this may be attributed to the strenuous fight over the "Freshman Ball." It had been the custom for the freshman class to give a ball complimentary to the upper classmen. The class of '85, juniors when we entered, had given such a ball; '86 had refused to do so. The great question therefore was, should '87 give a ball and thus fix the precedent, or should we back up '86 and kill it. Of course, our natural inclination was to disagree with the "sophs" but many '87 men were opposed to the scheme; so meeting after meeting was held with much eloquence and much wire pulling and it was finally decided not to give the ball, hence '85's slogan, "the last class to give a freshman ball."

Of course, all Tech men remember the horrors of that back room on the top floor of Rogers' where first-year drawing is thrust upon them and the joy of trying to get from there to top of Walker in five minutes, but I wonder what the present day freshman would think if the knobs were removed from the stair rails in Rogers' so they could slide from top to bottom. I never see those stair rails without a feeling of resentment at the knobs which now adorn (?) them.

What would they say to the notes we had to use then, would they echo the cry "papyrographs must go"?

Do they respond any more generally to the plea "Now is the time to subscribe?"

Of course, they still drill, still have freshman chemistry, descriptive geometry and other abominations, but they come so much better prepared and into such greatly improved conditions they cannot appreciate what we went through.

In spite of the greatly improved conditions and the increase in student activities, I do not believe the present men find any greater happiness than we did. The friendships cannot possibly be any dearer than those we formed, and as much as the present students and alumni admire and love our esteemed president it does not seem to me that anything can quite equal the spirit of reverence that existed in the heart of every Tech man of that earlier day for our beloved General Walker.

Could any one be more deeply loved than dear old Prof. Runkle

or Prof. Holman? And I am sure that even those few professors or instructors toward whom we thought we felt more or less distrust or resentment should and would be received with hearty good fellowship and respect by all of us, could they but cross our paths again.

Thirty years have rolled by since I entered, but I have never for an instant regretted coming to Tech and, indeed, am proud to style myself both a "Tech man" and an '87 man.

HOWARD L. COBURN, '87,
Chief Engineer Ambursen Hydraulic Construction Company.

ANNOUNCEMENT

At a meeting held February 19, 1914, the Executive Committee of the Alumni Association, realizing the desirability of a closer connection between the parent association and the local societies, created a new office—that of field manager, and elected to that office Isaac White Litchfield, '85.

It will be the duty of the field manager to keep in personal touch with the members of the associations in all parts of the world, and by means of correspondence, personal visits and otherwise, to aid, so far as possible, in building up the local societies and coördinating them with one another and with the parent association.

Mr. Litchfield is particularly well fitted for this work, as he has been connected with the development of the Alumni Association for many years, and has assisted some of the local associations to increase their spheres of action and usefulness.

As editor of the TECHNOLOGY REVIEW he has kept in close touch with the alumni in general, and in his relation as adviser of undergraduate activities, he has an acquaintance among the younger alumni who are making themselves so strongly felt in our local organizations.

Each member of the association—each local society, may feel that at headquarters there is a man fully conversant with Institute affairs, whose duty and pleasure it is to act as the connecting link between Technology and those who have left its doors.

JASPER WHITING, '89, *President,*
Alumni Association of the M. I. T.

NEW AERODYNAMIC LABORATORY

First educational structure on the new site to be devoted to aerodynamic research

The first structure that the Massachusetts Institute of Technology has caused to be erected for its own uses on its site in Cambridge is the new aërodynamic laboratory. The building is finished and the apparatus is in process of installation. This together with the fact that Technology has already instituted courses in the study of this science makes it the first college in the land to be fitted to prepare students for what must in the future be an exceedingly important line of development.

The laboratory is one established by Technology out of its own funds and the department to which it belongs is that of Naval Architecture and Marine Engineering of which Prof. C. H. Peabody is head. The new building is a modest construction on the Institute's land at Vassar Street and the portion of its equipment that is first to be installed, in fact is nearly ready for use, is the four-foot wind tunnel with its accompanying blower. This is of the pattern now in use at the National Physical Station at Teddington, England, an up-to-date institution which has graciously furnished the plans of its own well-tested apparatus. One result will be that when Technology gets the machinery in place it will be able to start ahead at full speed. The preliminary ground on which it is usually necessary to spend time in experimenting has been pretty well worked over and results may here be looked for, while the patterning of the station after one of known success will point to immediate effectiveness in the tests.

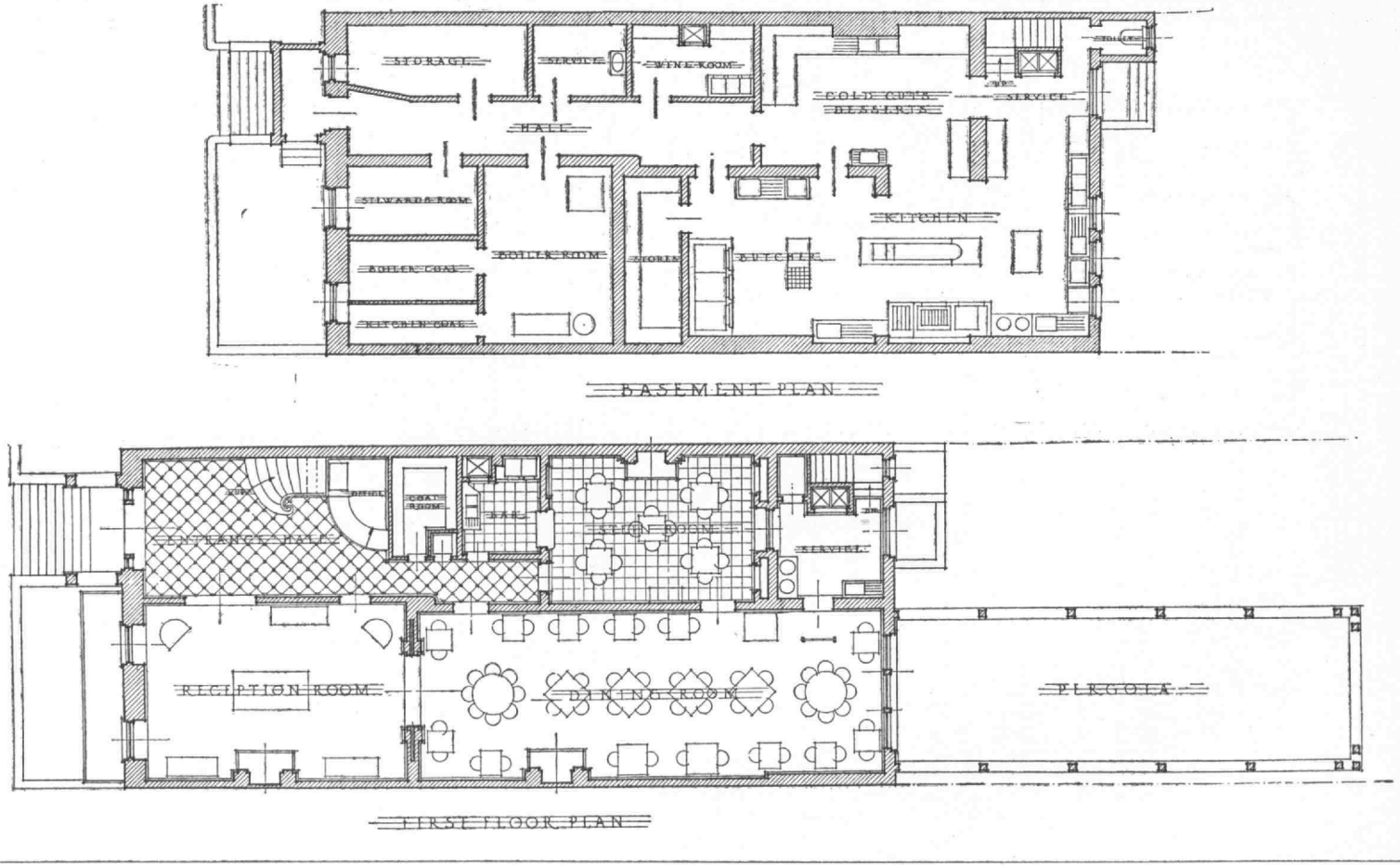
One of the questions that is likely to be asked at once is why such experimentation and such a course of instruction should be placed in the Department of Naval Architecture. It is perfectly true that aircraft may be looked at from two different points of view, some considering them to be machines, and consequently belonging to mechanical engineering, while others realize that there is much in common with the ship that sails the sea. The truth is that many of the problems of the two kinds of navigation are the same, the kinds of work are substantially the same, and the

form of the dirigible like that of the boat is controlled by stream lines. Then the means of propulsion had much in common in the two kinds of constructions.

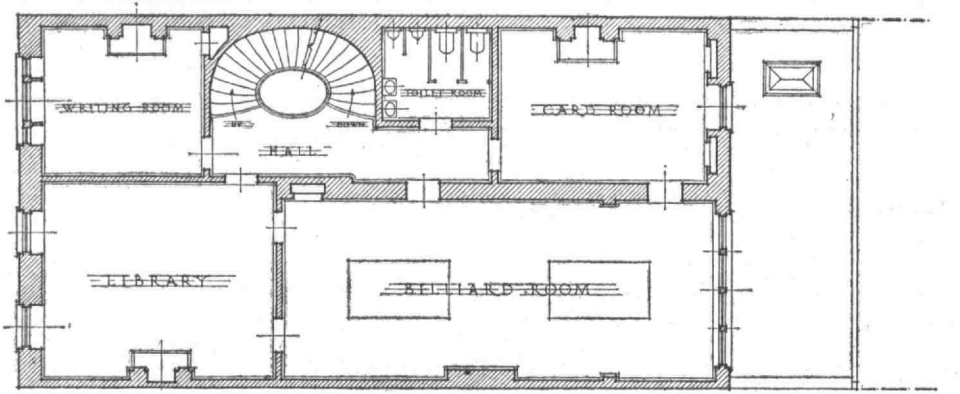
It is true that the aëroplane has attracted much attention, but it must be realized also that there is serious work for the dirigible, and in aëronautics attention must be divided between the two. Thus it is that the Department of Naval Architecture is doing the practical things in the courses in aërodynamics, and that a lieutenant of the U. S. Navy, Jerome C. Hunsaker, has been detailed to a connection with Technology in charge of the instruction.

With the far-seeing policy that has characterized the Institute, exemplified in the wisdom of Prof. William Barton Rogers, who founded it, Technology has already been paving the way for work in these most modern lines. For some time aërodynamic work has been done in a tentative way, and Prof. Peabody has been reading aëronautics with the naval constructors in his department, it being realized that there are always some such officers in the school as the Navy Department sends all its constructors from Annapolis to continue for two or three years at Tech. Further than this there is now established a course in aëronautics divided between the aëroplane and the dirigible in the regular curriculum with times set apart for drawing. This beginning is to be strengthened as time goes on, it being only last June that it was decided by the Corporation to take up regularly the courses in question.

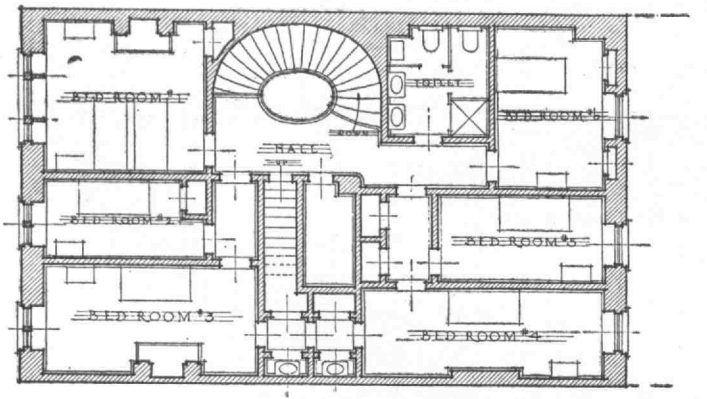
Lieutenant Hunsaker, as soon as he was detailed for the work at Tech of which he is a graduate, was sent to Europe where he acquainted himself with the status of the science. He visited the principal laboratories and assembled the best opinions on the subject. In his report to President Maclaurin he recommended the adoption of certain lines of study and the establishment of a laboratory in which work of experiment might be carried on. So soon has Technology begun the work seriously. In the past it has not been negligent and has done what was possible under its crowded conditions. Already a small wind-tunnel has yielded some excellent results; last year special lectures were given by A. A. Merrill, while thesis work has been done in different years by the students, one investigation, the determination of the thrust of the main shaft having thus been taken up a couple of years ago by a small group of students.



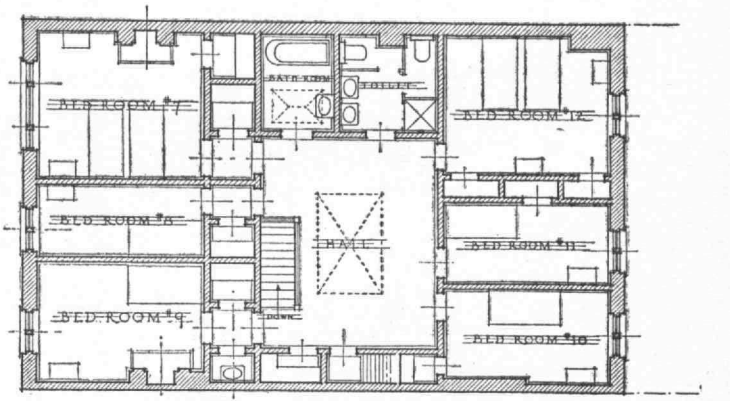
ALTERATIONS IN THE TECHNOLOGY CLUB OF NEW YORK.—OSWALD C. HERING AND DOUGLASS FITCH, ARCHITECTS.



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FOURTH FLOOR PLAN

ALTERATIONS FOR THE TECHNOLOGY CLUB OF NEW YORK.—OSWALD C. HERING AND DOUGLASS FITCH, ARCHITECTS.

NEW YORK CLUB NEWS

Some announcements from the Monthly Bulletin of the club—Grand opening of enlarged and refitted house this month—Courtesies from the Harvard Club

The board of governors has elected the following officers for 1914: Walter Large, '78, president; G. V. Wendell, '92, vice-president; F. C. Schmitz, '95, secretary; Ira Abbott, '81, treasurer; C. W. Wilder, '98, assistant treasurer. The chairman of the standing committees will be announced in the next bulletin.

Greeting from the New President

We have been so busy up to the present time enlarging our membership and securing a comfortable house that the creation and cultivation of a distinctive and characteristic club atmosphere has perforce been neglected. The importance of such a work is beyond question. Now that we have better facilities than heretofore, and have a membership which, with proper management, will provide for the physical maintenance and running of the house, we should make a radical change in our policy, and for the coming year devote ourselves largely to activities which have heretofore, owing to the pressure of necessary preliminary work, not been sufficiently attended to. I mean simply the employment to their fullest extent of the facilities we shall have, by various appropriate means and activities, for building up a spirit of interest and loyalty and good-fellowship —of a club spirit, in other words. If successfully done, this will enlist the loyalty of every member, and will not only preserve our membership intact at its present not inconsiderable figure, but will assure normal and natural additions to the membership without any forcing. Just how these general plans can be worked out in detail is now the subject of serious consideration by the governors, who need and will welcome suggestions from the members on the subject. Give us the benefit of your advice and coöperation.

Walter Large, *President.*

Plans for the New Clubhouse

The House Committee is pleased to report that before the opening of the remodelled clubhouse, six out of nine rooms available for occupancy by the month have already been reserved at the prices, and under the conditions published in the last bulletin. There remain but three rooms available for monthly occupancy —three other rooms being reserved for transients. If there is a greater demand for transients than these three rooms will fill, rooms rented by the month will be given up and the transients taken care of. It is the policy of this committee to give preference in the matter of sleeping accommodations to non-resident members, so that every member living outside of New York will feel that his occasional use of his membership privileges provides him with every convenience that the clubhouse affords. It is expected that the house will be ready for occupancy on or about April 1, and about two or three weeks later, when everything is in good running order, a night will be named for the formal inauguration of the remodelled house.

So many requests have come in for "pipe and bowl" hooks in the new stein room that it has been decided to hold an auction on the night of the formal opening at which no doubt the panels occupying choice positions will be sold at a premium. The par value of each panel is $10 including a "Tech pipe" and a "Tech bowl." The pipe is made of brier wood with an interchangeable long and short stem. The "bowl" is a handsome pewter mug and will be engraved with the club monogram, and with the member's name and class. Each panel is provided with bronze hooks to hold the pipe and bowl and a bronze plate on which the name of the member and his class will be engraved. All engraving will be done free of charge. Should a member have the misfortune to be absent on the night (date to be announced later) of the formal opening and desires a choice "pipe and bowl" panel in the Stein room the house committee will be glad to receive his bid in writing and if possible secure the panel for him by bidding $10 and $1 over any subsequent bid until the member's stipulated limit has been reached. Remember—there are 1,000 members and only 200 panels, of which about 50 may be said to have choice locations.

The stein room is to be further embellished with paintings by I. B. Hazelton, '97, in which the famous *Stein Song* (composed

by F. F. Bullard, '87) will be featured, as well as the Beaver—our new Tech mascot.

O. C. Hering, *Chairman House Committee.*

How It Looks to the Membership Committee

A great surprise awaits you.

When you see the changes made in the club house you will wonder how it has been accomplished in so short a time.

The work will be completed about April 15. The formal opening will take place later in the month. You will be notified in ample time to reserve the evening, for you surely will want to test the facilities of the new dining room for holding a large dinner party.

The new room arrangements are perfect. The hall now looks like a club entrance; the lounge, redecorated, is a most comfortable resting place, with its pleasant view of Gramercy Park. The new dining room, nearly double in size, with its large French windows, is inviting. The stein room is one of the most attractive club rooms in New York, with its panels containing members' steins and pipes, its tapestry brick fireplace, its mural decorations —well, you will want to visit it often and show it to your friends.

The rooms upstairs have all been remodelled. Bath rooms and new furniture make them comfortable quarters for permanent or transient guests. You can secure accommodations with the usual club conveniences.

This letter is sent out to whet your appetite for a peep at the place. Meanwhile our good neighbors, the Columbia, Princeton, National Arts, Chemists, and Harvard Clubs have been entertaining us royally.

Watch for the opening announcement—and arrange your plans so that you can come to the great house warming. President Maclaurin is coming. The stunts will be full of fun.

F. C. Schmitz, *Chairman Membership Committee.*

Club Note

The privileges of the Harvard Club have been extended to our members during the progress of repairs in our clubhouse in a courteous note in which special reference is made to the new coöperative relations existing between the two institutions.

The Cosmopolitan Club of the Institute

The Institute of Technology has enrolled students from 32 foreign countries, the proportion of foreign student attendance being much larger than at any other college in the country.

In order to make the foreign students at Technology feel at home and to bring them into contact with each other and with representative native students, the Cosmopolitan Club was formed in 1911. The foreign element, of course, predominates at all times, and membership from the United States is limited to not more than one third of the total membership.

The club gives five or six public entertainments a year, taking the form of national nights, to which members and guests are invited. Once or twice during the year a pay performance is given in Huntington Hall to assist in supporting the activities of the club.

The officers of the club are Z. Y. Chow, a senior, from China, president; R. J. Murphy of St. Johns, N. F., vice-president; L. W. Snow, A.B., Rochester, N. H., treasurer, and T. Hsi, China, secretary.

Supporting Technology Athletics

The undergraduates are taking more and more part in financing athletics. Last year a student committee was appointed to give an entertainment in Huntington Hall under the name *Was ist Los.* The receipts were some two or three hundred dollars. This year the play given by the students was *Yish Ka Bibble,* and the net proceeds amounted to over $500.

Practically all the proceeds of the Tech Show go to athletics, and last fall the 1915 *Technique* committee turned over $700 of its funds to the Institute committee to be used for any purpose it might see fit, which can include athletics.

On account of his recent illness, Prof. William T. Sedgwick has been given leave of absence for the present term and has sailed for southern Europe, where there are notable zoölogical and biological stations.

He is the accredited representative of the Society of Arts of the Institute at the thirtieth anniversary of the Circolo Matematico of Palermo, which occurs this spring.

Report from Prof. Jaggar

Prof. Thomas A. Jaggar, who was the earliest foreign geologist at the scene of the eruption of Sakurakima, has made a preliminary report in which he classes this volcano between the Vesuvius and Tarumai types—Tarumai being in Hokkaido, Japan. The dangerous feature of the eruption was the downward rush of gases and ashes, making a tornado of fire which was so destructive to human life.

Prof. Jaggar states that he knows of no case in volcanic history where the lava has flowed out so voluminously and freely as in this case, releasing occluded gases and being followed by violent explosions. In the last phase of the eruption he states that the black lava was flowing to the sea in tubes of its own making, finally joining the mainland on the east and converting the island into a peninsula.

The Technology Boat Club

The Technology Boat Club has had little financial encouragement, but the interest still continues, and there is no lack of good material. Because of lack of funds, however, it has decided to dispense with the Varsity crew and concentrate all efforts on four-oar and inter-class rowing.

The men will have to have much more experience before they can go out into inter-collegiate competitions, but it is hoped that next year a Varsity crew will be established in order to give the freshmen and sophomores and those coming to the Institute during the next two years, sufficient experience so that rowing may become a well-established sport when Tech moves across the river in the fall of 1915.

Fifty Thousand Dollars from the Thayer Estate

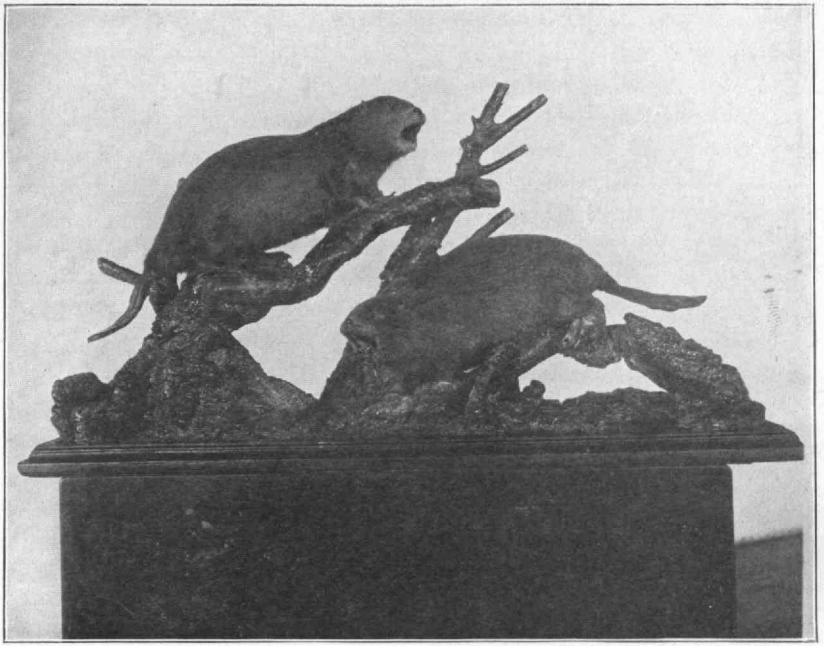
The appraisal of the estate of Nathaniel Thayer, who died March 21, 1911, was recently filed in New York City. The entire estate amounts to over six million dollars. Mr. Thayer was a member of the Corporation of the Institute of Technology, and in his will this institution is bequeathed $50,000. He also bequeathed $100,000 to the Museum of Fine Arts, and $50,000 to the Massachusetts General Hospital.

WHAT LOCAL CLUBS ARE DOING

DETROIT TECHNOLOGY ASSOCIATION.—The Technology alumni, located in and around Detroit, held their annual meeting and dinner January 27th, and although attended by only twenty-five men, the enthusiasm shown made up for the absence of the other seventy. The following were present: George R. Anthony, A. F. Shattuck, '91; W. R. Kales, '92; M. S. Dennett, '11; G. H. Kimball, '73; R. F. Hill, '10; Emmet Dwyer, '05; H. W. Alden, '93; Marvine Gorham, '93; K. D. Stillwagen, '10; J. P. Buckley, '93; O. W. Albee, '93; F. H. Davis, '04; H. J. Graber, '03; Currier Lang, '04; George R. Cooke, '09; D. V. Williamson, '10; Horace E. Allen, '08; Granger Whitney, '87; E. B. Cooper, '05; L. B. Walker, '12; Tracy Lyon, '85; H. T. Winchester, '02; Preston Morris Smith, '05.

Following the dinner, the present secretary was reëlected for the coming year, after which we proceeded to a series of heart-to-heart talks; the idea in view being, to devise means of getting together a little more than once a year, and also to bring about more concerted action on the part of the alumni in this section of the country.

The secretary called first on Granger Whitney to act as first toastmaster. He, in turn, called upon Tracy Lyon, who in turn called on our latest addition, Frank Davis, who called on William-



THE BEAVER—TECHNOLOGY MASCOT

In presenting the Beaver group to President Maclaurin at the New York Club banquet, Jan. 17, Lester D. Gardner, '98, said:—

On behalf of the Technology Club of New York, I have been asked to present you for your consideration as a mascot for Tech, these Beavers. It may interest you to know how the Beaver came to be chosen. But before proceeding, I, like every other good loyal Tech man, take off my Beaver hat to President Maclaurin.

Some one came to us at the club and asked us if Tech had a mascot. We replied "Sure, President Maclaurin." He told us that he didn't mean a revenue-producing animal, he wanted a sentimental mascot. We first thought of the kangaroo, which like Tech goes forward by leaps and bounds and like you comes from Australia. Then we considered the elephant. He is wise, patient, strong, hard working and like all men who graduate from Tech has a good tough hide.

But neither of these were American animals. We turned to Mr. Hornaday's book on the Animals of North America and instantly chose the Beaver. As you will see the Beaver not only typifies the Tech man but his habits are peculiarly our own. Mr. Hornaday says, "Of all the animals of the world, the beaver is noted for his engineering and mechanical skill and habits of industry. His habits are nocturnal, he does his best work in the dark."

son. Williamson dwelt on the lack of enthusiasm, the lack of weekly lunches and after giving his ideas on what should be done called on Albee, who continued along the same lines. Albee then called on Gorham who pleaded for more money for the Fund. Gorham then called on the secretary who threw the meeting open for a general discussion of the questions before the house. It was finally decided that we should not go too fast and use up our enthusiasm all at once, and so we determined to have informal dinners every three months instead of weekly, for the present.

Our next will be in April, with Albee and Williamson in charge.

On February 7th the Harvard and Tech alumni joined in a Dutch luncheon at the Board of Commerce and listened to a masterful and diplomatic talk by Granger Whitney, on the new arrangement between Harvard and Tech. There were twenty-one Tech men and nineteen Harvard men. The Tech men present were: Cooke, '09; Albee, 93; Weil, '88; Courtis, '99; Whitney, '87; Alden, '93; Dwyer, '05; Davis, '04; O'Brien, '10; Lang, '04; Loomis, Moses, '09; Ayres, '01; Goldenberg, '02; Pattle, '01; Huntington, '98; Wood, '96; Stillwagen, '10; Snow, '07; Kales, '92; and Smith, '05.

Last October a few of us had the pleasure of Louis K. Rourke's company for dinner, who talked of various experiences since his graduation and it was to be regretted that his words could not have been given to the full 95 members instead of 10.

George R. Cooke, who has been chairman of the building committee of the new University Club, has received his just reward in the nature of an election to the governing board of the club.

It has been proposed to the Tech men of Cleveland that they join us in a field day at Put-in-Bay, a point about half way between the two cities, the last Saturday in June. It is quite possible that the Harvard alumni of both cities will be asked to join in. Horace E. Allen, '08, will have charge of the arrangements for Detroit. I understand that Cleveland has a committee appointed to take up the subject and it is to be hoped that the field day can be arranged as an annual occurrence.

The reunion in Chicago, a most successful affair, —our congratulations to the Northwestern Association—was attended by Snow, Kales, Anthony, Gorham, Shattuck and Smith, who all came back fully repaid.—*Preston Morris Smith, '05, Secretary, 54 Macomb St., Detroit, Mich.*

Technology Club of New Hampshire—The Technology Club of New Hampshire held its third annual meeting and banquet February 19, 1914, at the Eagle Hotel, Concord, N. H. During the dinner the following telegram was received by the secretary from Mr. E. W. Rollins, '71, at Denver, Colo., to wit:

Best wishes to the bunch. Hope to see them all next June at "Three Rivers."

This telegram was read to the assembled members of the club and the motion put as to whether or not to accept his kind invitation. The motion was unanimously adopted and it was also voted to send a return telegram to Mr. Rollins expressing our regret at his absence and apprising him of the fact that he was the unanimous candidate for president of the club for the coming year.

Later, before the regular speakers were called upon, Barton P. Jenks, '92, suggested that in view of the coöperation of Tech with Harvard in engineering departments that it would be a good idea to follow this course in the midwinter banquets of the two New Hampshire societies and if it could be arranged he suggested that the two clubs unite in their midwinter banquet and have one large gathering. He put this as a motion which was seconded by Andrew Fisher, Jr. '05, and a committee consisting of A. L. Clough, '91, B. P. Jenks, '92, and W. D. Davol, '06, was appointed to confer with the Harvard Club of New Hampshire on this question.

Along the same line Andrew Fisher, Jr., moved that a telegram of endorsement of the coöperation of Tech and Harvard in scientific studies be sent by the Tech Club of New Hampshire to President Maclaurin at the Chicago convention reading as follows:

Forty-five members of the Tech Club of New Hampshire heartily endorse your policy of coöperation with Harvard in engineering departments.

At this time the chairman appointed a nominating committee consisting of Andrew Fisher, Jr., M. L. Bullard, '09, and Omar Swenson, '04, which committee brought in the following names: E. W. Rollins, '71, for president; Norwin S. Bean, '91, for vice-president; W. D. Davol, '06, for secretary-treasurer, and Andrew Fisher, Jr., '05, for representative on the Alumni Council.

No other nominations were presented and the ticket was elected unanimously.

Prof. George E. Russell, '00, of the Department of Civil Engineering, was the first speaker and explained the plan of coöperation between Technology and Harvard. He made it plain that it is a

movement for conservation of educational force; a movement in the interests of economy. It is not an absorption of one institution by the other, but both remain independent in name and rights. He declared amalgamation a good step. "It would be folly to try to maintain in the same city two parallel great schools of engineering and it is a great step for the two schools to join forces," he said. "Technology will direct and care for the courses that are affected and Harvard will contribute an enlarged Faculty and liberally of its funds."

President Arnott, '74, then called on the Rev. Frank Powell of Manchester, N. H., who spoke on the "Relation of Culture to the Commonwealth."

Following the remarks of the Rev. Dr. Powell, President Arnott spoke on "Efficiency as Applied to General Industry."

Prof. William K. Lewis, '05, of the Department of Chemical Engineering, was the next speaker and called attention to the growing place of scientific methods in education and predicted the time when the cultural studies—so called—will give way to methods of a instruction of scientific character or will be taught by modified methods.

John Ritchie, Jr., publicity manager of Tech, was the last speaker and brought to us many items of gossip of the Faculty and of the doings of the M.I.T. His principal topic was the new buildings, a $10,000,000 educational plant, that Tech is now erecting on the Charles River Basin at Cambridge. He also referred to the death of Mr. Rand whom many of our club members had come to love through their constant association with him while at Tech.

After the remarks of Mr. Ritchie, the meeting broke up as it was then time for the boys to take trains to their respective homes. It was felt that this banquet was a great success, which was due to the efforts of the entertainment committee consisting of Frank W. Rollins, '76, Barton P. Jenks, '92, and M. L. Bullard, '08.—*W. D. Davol, '06, Secretary-Treasurer, 819 Elm Street, Manchester, N. H.*

THE TECHNOLOGY CLUB OF NEW BEDFORD.—The Technology Club of New Bedford held a meeting February 12, 1914, at the residence of D. M. Beaman, '96. Twenty-three members and guests were present.

Humphrey Swift, Jr., '91, gave a most interesting talk on travels

in New Zealand, Australia, and South Africa, after which lunch was served.—*Richard D. Chase, '92, 607 Purchase Street, New Bedford, Mass.*

THE TECHNOLOGY CLUB OF LOWER CANADA.—The annual banquet of the Technology Club of Lower Canada was held at the St. Regis on Friday evening, October 6. Mr. F. E. Came, '81 made an excellent toastmaster and called upon the following gentlemen to respond to the toasts appended to their names: A. K. Tylee, '07, "Boston"; T. E. Videto, '97, "Building Construction Along the C. P. R."; Prof Evans, "Sister Universities"; W. J. O'Leary, '99, "Electrical Engineering in Canada"; Prof. Keay, '00, "Transportation Problems in Canada"; '00, S. P. Brown, '03, "Tunnel Work in Canada"; G. R. Heckle, '99, "Pleasures of Municipal Engineering"; G. T. Hyde, '01, "Montreal Architecture"; F. E. Healy, '97, "Mintage in Mexico and U. S. A." Toastmaster Came referred to the recent action of the Massachusetts Institute of Technology in adopting the beaver as the college mascot. The fact that the beaver was likewise the emblem of Lower Canada made it doubly significant to the club. The guests were well entertained during the evening by solos rendered by H. O. Blatt, '04, and by recitations by Prof. Evans of McGill. The committee in charge were Prof. Keay, '00, D. J. Spence, '00, E. B. Evans, '06, F. J. Friedman, '08, W. E. West '99, and G. R. Heckle, '99. The following were among those present: J. A. Crane, J. B. Babcock, '10, W. J. O'Leary, '99, H. E. Stearns, '81, T. E. Videto, '07, W. S. Hart, '00, L. B. Schwarz, S. P. Brown, '00, G. T. Hyde, '01, H. O. Keay, '00, Neville Evans, E. B. Evans, '06, F. E. Came, '81, F. J. Friedman, '08, D. J. Spence, '99, G. R. Heckle, '99, S. P. Newton, '06, W. F. Farley, '06, H. O. Blatt, '04, F. E. Healy, '97, A. K. Tylee, '07, Abbott Allen, '10, C. McDonough, L. J. T. Decarie, '07, W. E. West, '99, A. C. Fernald, H. V. Spurr and H. E. Randall.—*E. B. Evans, '06, 357 St. Catherine Street, W., Montreal, Quebec.*

TECHNOLOGY CLUB OF BUFFALO.—The Buffalo Tech Club seems to be flourishing now more than it has in the past four or five years. Our regular monthly luncheons are well attended and the dinners that we have through the winter are always crowded and everybody seems to have a good time.

The following are the officers elected for the new year:—President, N. K. B. Patch, '01; secretary and treasurer, Howard M. Cowper, '05; members of the executive committee: president, secretary and treasurer; Roy Wallace Lindsay, '07, George Choate Furness, '06, Edward G. Henrich, '01.

The Buffalo alumni gave a dinner on Tuesday evening, March 24, in honor of Mr. I. W. Litchfield, '85, who has recently been made field manager of the associated clubs. About fifty per cent. of our entire membership turned out to hear what Mr. Litchfield had to say in regard to the present conditions in Boston. After a very enjoyable dinner Mr. Litchfield made all the members feel perfectly at ease by holding a "Quiz."

We all asked him questions and he answered each question, explaining the present conditions and bringing in new ideas so that we all had a very clear understanding of the recent coöperative arrangement made between Tech and Harvard. We also heard the latest undergraduate news and all about the extensive research work which is being carried on by the Institute.

Mr. Litchfield is bubbling over with enthusiasm and inspired everybody who heard him with a desire to get together and stick together, so that we can do our share of the work necessary to carry out the great projects, which we have undertaken in Boston. —*H. M. Cowper, '05, Secretary, 1010 Mutual Life Building, Buffalo, N. Y.*

The Rocky Mountain Technology Club.—The last meeting of the club was held January 30, 1914, at the rooms of the Colorado Electric Club, Chamber of Commerce Building, Denver, Colorado.

The following men were present: F. E. Shepard, '87, W. C. Brace, '87, F. M. Ladd, '88, M. A. Sears, '96, H. R. Low, '03, S. C. Lind, '03, Walter Trask, '06, R. P. Raynolds, '06, Robert Hursh, '06, J. C. Eberle, '06, C. R. Wilfley, '06, M. W. Hayward, '06, G. D. Luther, '07, J. A. Davis, '07, W. H. Horton, '10, and W. B. Denton, '11.

A letter from H. L. Williams, '06, was read in which he resigned from the position of secretary of the club since he has left Denver and is now making his headquarters in New York. M. W. Hayward, '06, was elected secretary for the remainder of the year.

After dinner a pleasant hour was spent talking over old times

and the members then adjourned to the pool and billiard rooms of the Electric Club.

It was voted at the meeting that the members of the club meet informally for lunch on Wednesday of each week at the rooms of the Colorado Electric Club from 12.30 to 1.30. Any Tech men who may happen to be in the city at that time will be cordially welcome.—*M. W. Hayward*, '06, *Secretary, 1337 Marion Street, Denver, Colo.*

Tech Club of Hawaii.—The Technology Club of Hawaii has been in the bud for several years, and on February 27, eight good and true Tech men met and caused the bud to bloom, and we are now the flower of the flock so far as Tech clubs go.

We have perfected our organization, adopted a constitution and by-laws, and whatever we may lack in numbers we make up in spirit.

There are, no doubt, Tech men passing through Honolulu from time to time, and although the through steamers stay here but a day, we shall be glad to meet them and give them some attention if they have no other friends to call upon.—*Norman Watkins*, '98, *Secretary, Box 767, Honolulu, H. I.*

Indiana Association M. I. T.—The Indiana Association held its second monthly luncheon at the University Club on the 16th with an attendance of about half the membership. This was also about the number attending the first luncheon.

Mr. Miller, the secretary of the Cincinnati Club, was present as a guest and gave us an interesting talk on the activities of that body.

It is planned in the future to have a few minutes' talk at each of these luncheons given by one of our members and pertaining particularly to that branch of industry in which he is engaged.

The regular dates for the luncheons are on the 15th day of each month, except when these fall on Saturday or Sunday when the luncheon will be held the following Monday. The place of holding the luncheon is announced each month. Any visiting alumnus will be cordially welcomed if he will communicate with the secretary.—*W. B. Parker*, '88, *Board of Trade Building, Indianapolis, Ind.*

The Technology Club of the Connecticut Valley.—The committee of the association—consisting of Eben S. Stevens, '68,

of Quinebaug, Conn.; E. P. Marsh, '89, of Springfield; George W. Baker, '92, of Hartford; Charles P. Waterman, '03, of Hartford; R. J. Ross, '06, of Hartford, and E. W. Pelton, '03, New Britain—met at the Allen House in Hartford, March 4, and discussed plans for the coming year.

It was decided to concentrate all efforts on the June meeting to be held at the Hartford Yacht Club, Saybrook, Conn., Friday and Saturday, June 26 and 27.

The members of the association will rendezvous at Hartford and take the five o'clock boat, Friday afternoon, June 26, reaching Saybrook a little after 11 o'clock Friday night. This will give all day Saturday at the Yacht Club. This place has become celebrated all over New England and men come from long distances to attend.

The association extends a cordial invitation to any Tech man anywhere to attend this meeting, and guarantees a good time.—*Ernest W. Pelton, '03, Secretary, 77 Forest Street, New Britain, Conn.*

St. Louis Society of the M. I. T.—Two booster meetings for the Chicago reunion were held in February, which brought out about a dozen ardent spirits. The newly approved plan for co-operation with Harvard University was the chief topic of discussion in spite of the efforts of M. L. Emerson '04, of Boston to focus attention on the reunion program. The following were present at one or both of the booster meetings: J. L. Mauran, '89, E. C. Klipstein, '93, C. E. Smith, '00, S. L. Wonson, G. L. Wadleigh, '97, M. L. Emerson, '04, A. M. Holcombe, '04, C. C. Easterbrooks, '04, H. W. Hall, '12, E. L. Brown, '08, and M. Desloge, '12.—*Amasa M. Holcombe, '04, Secretary-Treasurer, 510 Pine Street, St. Louis, Mo.*

The Technology Club of the University of Illinois.—The club has held three successful meetings this year. In each case there was a luncheon served at the University Club at which there was a good attendance and at which informal talks were made by the different members of the club.

The meeting of December 13 was particularly interesting for the new members of the club gave an account of the work they had been doing since they left the Institute. Those who spoke were Miss Isabel Bevier, '98, Messrs. C. G. Derrick, Lambert Thorp,

'06, H. W. Waterfall, '11, A. B. M. Corrubia, '13, and A. C. Willard, '04.

The club is planning to hold its annual dinner at the University Club on Friday March 27. The club at present numbers 18 members.

The Technology Club of the University of Illinois held its second annual banquet at the University Club on Friday evening, March 27. Thirteen covers were laid, and there were present Messrs. Rufus Crane, '11, A. C. Willard, '04, H. E. Babbit, '11, Ralph Hilscher, '10, E. A. Holbrook, '04, A. H. Kimball, '12, A. B. McDaniel '01, A. B. M. Corrubia, '11, H. W. Waterfall, '11, E. W. Washburn, '05, L. J. Towne, '09, H. S. Eames, '08, and H. N. Parker, '94. A satisfactory financial report from Treasurer Paul Hansen was read, and a discussion of the plans of New Technology and an account of the Tech reunion in Chicago, where the club was represented by Messrs. Hansen and Parker. The evening passed pleasantly in telling stories and recalling the pleasant times that had been had at the several meetings of the club since its formation.

On Tuesday noon, March 31, The Tech Club of the University of Illinois entertained A. A. Noyes, '86, as guest. Professor Noyes spoke of his trip to California and answered many questions as to features of the alliance of Harvard that were not understood by members. There were present Messrs. H. S. Eames, '08, A. H. Kimball, '12, A. B. McDaniel, '01, L. J. Towne, '09, H. W. Waterfall, '11, E. W. Washburn, '05, A. B. M. Corrubia, '11, Paul Hansen, '03, Ralph Hilscher, '10, A. C. Willard, '04, A. H. Babbit, '11, A. A. Noyes, '86, and H. N. Parker, '94.—*Horatio Newton Parker, '94, Secretary, University of Illinois, Urbana, Ill.*

The Cincinnati M. I. T. Club.—The February meeting of the Cincinnati M. I. T. Club again took the form of a dinner and bowling match. At this game Cincinnati is beginning to develop some splendid material and also to bring the fellows into closer contact, which has its good effect also. We had a turn-out of about 35 and managed to work in our veteran quartette of Carpenter, Hildabold, Brotherton and Stanwood, all from the classes of '73 to '77 and they were fully able to keep the younger members up to their mark. In this match the National team managed to put it over both the Federals and the bush leaguers to a lively tune.

The annual election of officers was to have taken place at this time, but was postponed with the expectation of making it the occasion for a more formal meeting at which it was hoped to have H. M. Waite, '90, who was called from our midst to *make* the city of Dayton be good.

The secretary had the pleasure of meeting with the younger sister association of Indianapolis, which is not at all egotistic in its nature, though its name of I-am-it (I. A. M. I. T.) would seem to so indicate. It is undoubtedly going to be a live-wire bunch and has already issued a challenge to Cincinnati for a game of baseball this season—which it is hoped we may be able to accept if they do not claim too many privileges due to their age. Cincinnati feels that it is really somewhat responsible for this club as its leading spirit, Wayne, '96, is a Cincinnatian so we will keep tabs on its movements with considerable interest.

The weekly lunch feature of our club still seems to be important and attractive and we have been fortunate in having visitors with more or less frequency and would be pleased to have any one interested in Technology join us at our Tuesday lunches. We are looking forward to seeing some more Technology people at the meeting of the American Chemical Society in April.—*Stuart R. Miller*, '07, *Secretary, 3366 Morrison Avenue, Clifton, Cincinnati, Ohio.*

Washington Society of M. I. T.—At our recent meeting we elected the following officers for the ensuing year: President, Parker Van P. Dodge, '07; vice-president, William H. Bixby, '70; secretary, Walter J. Gill, Jr., '04, 1306 Rhode Island Avenue, N. W.; treasurer, F. Charles Starr, '05; fifth member of executive committee, Frederick W. Swanton, '90.—*Walter J. Gill, Jr.*, '04, *Secretary, 1306 Rhode Island Avenue, N. W., Washington, D. C.*

Technology Association of Oregon.—At the annual meeting of the Technology Association of Oregon for the election of officers, held on January 16, H. B. Hastings, '07, was elected president and R. E. Cushman, '06, was elected secretary and treasurer. R. E. Cushman's address is 266 E.27th Street, No., Portland, Oregon.

Kindly send all communication for the association addressed to Mr. Cushman, secretary, at the above address.—*A. F. Menke*, '09, *303 Court House, Portland, Oregon.*

TECHNOLOGY CLUB OF ALBANY.—The annual dinner and election of officers of the Technology Club of Albany was held at Keeler's Hotel, Albany, March 20, and was attended by twenty-five men.

At the election of officers Theodore Horton, '94, of Albany, was elected president; R. C. Robinson, '01, of Schenectady, vice-president, and R. Suter, '00, of Albany, as secretary-treasurer.

After a social hour a general discussion was held as to how we could make our meetings of more general interest, and as to the advisability of holding them oftener.—*R. C. Robinson*'01, *Secretary, Schenectady, N. Y.*

New Tech Monthly

The agitation that started early in the fall for the publication of an undergraduate monthly magazine of literary character to supplement the work of the daily *Tech* has resulted in the production of *The Tech Monthly*, the first number of which was issued about the middle of March.

In every respect this publication is a credit to the undergraduates and to the Institute. It covers a wide spread of subjects, all of which are well handled, the cuts are good, and it has a touch of humor which is not cheap or overdone.

The Monthly, even more than *The Tech*, will keep alumni in touch with the Institute, for the reason that a daily paper has almost too much news to assimilate.

The price is $1.50 a year, and subscriptions should be sent to *The Tech Monthly*, 43 Trinity Place, Boston.

President Maclaurin to Visit Pacific Coast

President Maclaurin has decided to make his long anticipated visit to the Pacific coast this month, and, with Mrs. Maclaurin, will leave Boston April 23, for a trip to occupy five or six weeks. He will arrive in St. Louis on April 24, and will be in Kansas City the 27th; he will leave for Denver on the same day, arriving there April 28, and will be in Salt Lake City on May 1. He is due in Los Angeles May 3, and in San Francisco May 15. He will be in Portland, Ore., on May 19, Seattle May 20, Spokane May 22, and on his return will stop at Minneapolis on May 30.

TECH MEN IN THE PUBLIC EYE

LEWIS E. MOORE, '02, formerly professor of civil engineering at the Institute, has recently been appointed engineer of bridges and signals of the Massachusetts Public Service Commission, and resigned from the Faculty to begin his new duties, February 1.

After being graduated from the Manual Training School of Chicago, Prof. Moore received the degree of B. S., in mechanical engineering from the University of Wisconsin, and afterward had a very valuable experience in the engineering departments of the Illinois Central Railway and with the Phœnix Bridge Company.

He then entered the Institute and was graduated from the Civil Engineering Department. He has taught at the University of Illinois and the University of Wisconsin, and in 1907 became assistant professor of civil engineering at the Institute, teaching the subjects of bridge design and foundations.

Since he came to Boston Prof. Moore has had much experience as a consulting engineer, and has designed and built a number of important structures.

JAMES E. BARLOW, '05, formerly principal assistant city engineer of Cincinnati, Ohio, has been appointed service director of Dayton, Ohio, under the new general manager of that city, Henry M. Waite, '90, who was Mr. Barlow's former chief at Cincinnati.

After being graduated from the Institute in 1905, Mr. Barlow was assistant engineer in the Board of Water Supply for the city of New York, and later he became connected with the Bureau of Municipal Research. He then went to Cincinnati where he became associated with Mr. Waite.

E. B. HOMER, '85, formerly professor of architecture at the Institute of Technology and later director of the Rhode Island School of Design at Providence, has been appointed chairman of a city planning commission in that city in accordance with a vote of the City Council.

WILLIAM H. MERRILL, JR., '89, director of the Underwriters' Laboratory, Incorporated, is the subject of a sketch in a recent number of the *Electrical Review*. He is designated as the genius

of this important enterprise. He was the founder of this institution and has been the manager since its inception.

Soon after leaving the Institute he became connected with the Boston Board of Fire Underwriters, and when he went to Chicago in 1893, he became electrician for the Chicago Underwriters' Association. It was soon after this that he organized the Underwriters' Bureau of Fire Protection Engineering.

Mr. Merrill has been a very prominent member of the Electrical Committee of the Underwriters' National Electric Association, and was largely instrumental in the movement which resulted in the National electric code.

L. M. WHITNEY, '96, formerly general superintendent of the Central Union Telephone Company of Indiana, has been made general commercial superintendent of the New England Telephone Company in the place of Carl T. Keller, resigned. He assumed his duties February 1.

Mr. Whitney has been connected with the telephone company ever since his graduation from the Institute, having entered the service of the American Telephone & Telegraph Company of New York in 1896.

THOMAS L. HINCKLEY, '06, of the New York Bureau of Municipal Research, has been appointed director of the Citizens Bureau of Municipal Efficiency of Milwaukee, Wis.

Mr. Hinckley, who was graduated from the Department of Biology and Public Health, became a sanitary engineer upon his graduation from the Institute, and previous to his connection with the Bureau of Municipal Research of New York, he was consulting engineer with Hering & Fuller, New York City.

CLARENCE H. JOHNSTON, '80, of St. Paul, Minn., is the subject of a sketch in the *St. Paul Pioneer Press* of recent date. Mr. Johnston is the architect for all the Minnesota state institutions, having been appointed by the State Board of Control in 1901. His latest important public building is the State Historical and Supreme Court building, authorized by the last Legislature. Besides the state institutions he is represented by some of the most important buildings in St. Paul.

After leaving the Institute, Mr. Johnston traveled extensively for educational purposes until 1886, when he opened an office in St. Paul. He was formerly a director of the American Institute of

Architects, is ex-president of the Minnesota chapter of the same organization, and was one of the founders of the Architectural League of New York.

ALLAN R. CULLIMORE, '07, is professor of civil engineering at Toledo University, Toledo, Ohio, which has recently dedicated an important addition to the university. Prof. Cullimore is dean of the technical faculty.

SELSKAR M. GUNN, '05, professor of biology in the Department of Sanitary Biology and Public Health at the Institute, has been made managing editor of the *American Journal of Public Health* succeeding Dr. Livingston Farrand.

This change has brought the journal to Boston, and under the efforts of the new editor it is growing in importance and circulation.

JOHN R. BROWNELL, '01, has been selected by Commissioner French of Washington, as superintendent of safety under the industrial accident law, which became effective in California, January 1.

PHILIP H. DATER, '98, formerly resident engineer of the New York State Barge Canal at the Little Falls, N. Y., and recently district engineer of the United States Forest Service with headquarters at Portland, Ore., has been appointed city engineer of that city. Mr. Dater had been with the New York State Engineering Department continuously since 1898, until his appointment to the Forest Service.

HARDY CROSS, '08, assistant professor of civil engineering at Brown University, has organized a series of extension lectures connected with the university, which will have special reference to structural engineering.

ELISHA LEE, '92, has been made general superintendent of the Philadelphia, Baltimore and Washington Railroad. Mr. Lee entered the service of the Philadelphia Railroad Company in November, 1892, and until his recent appointment was assistant to the general manager of the Pennsylvania railroad lines east of Pittsburgh and Erie. During the last year and a half he has occupied the most important position of chairman of the conference committee of managers of eastern railroads. In this capacity he has had to do with negotiations with various labor organizations, and with the presentation of the case of the railroads in arbitrating wage demands of firemen, trainmen and conductors.

REPORT OF THE SECRETARY-TREASURER FOR 1913

MEMBERSHIP:

The membership of the Alumni Association on December 31, 1913, was 6,665 of whom 5,086 were members by graduation and 1,579 by election. Of these, 347 are life members, and in addition to this there are five honorary members:—Ex-President Crafts, ex-President Pritchett, Mr. Wigglesworth, a former treasurer of the Institute, Dean Burton and President Maclaurin.

The branch associations now number forty-two, a gain of three during the past year. These branch associations are being united into one association, The Technology Clubs Associated, formed at the banquet which was held in New York last January.

COUNCIL MEETINGS:

During the past year the Council of the Alumni Association has been unusually active and it has held eight regular meetings and two special meetings; a total of ten meetings for the year, as against seven meetings in 1912, five meetings in 1911, six meetings in 1910 and two meetings in 1909 the first year of the existence of the Council. At the meetings of the past year there has been an average attendance of thirty-five, and during the year forty-five guests have attended the Council meetings. The number of meetings is larger than before and the average attendance greater.

The Executive Committee has held fourteen meetings.

POLICIES:

During the past year the administration adopted a plan for holding stated meetings of the Council which have been called for the third Monday in each month from October to May inclusive. The branch associations have been requested to hold stated meetings between the meetings of the Council so that the report, sent to them by the secretary, of the proceedings of the Council, could be reviewed and discussed.

Another policy of the Executive Committee, started in the previous year, was followed during the past year, by which some meet-

ings of the Council were arranged to afford the members of the Council information concerning the work carried on at the Institute. Professors Miller and Pender told at one meeting what was being done of interest in their respective departments; and Lieut. Hunsaker, an officer detailed at the Institute by the Navy, addressed the members, at another meeting, on the work being undertaken in aviation.

EVENTS:

The first event of note in the past year was the holding of the annual banquet of the association away from Boston for the first time. The banquet, at which five hundred and twenty attended, was held in New York in conjunction with the celebration of the tenth anniversary of the Technology Club of New York. At this time the Technology Clubs Associated was formed, to coöperate with the Alumni Association in the work of banking together the local associations.

On March 31 a special meeting of the Council was held which was known as Undergraduate Night, at which representatives from all the undergraduate organizations addressed the Council on the work carried on by their several organizations. This proved to be such a satisfactory meeting that it was suggested that a larger one be held in Huntington Hall this Spring which should be open to the students and others interested in Technology affairs.

In place of the usual Pop Concert, a new kind of entertainment called a "Potlatch Chantant" was held on the evening of Commencement Day, in Mechanics Hall. A brass band furnished music and "stunts" were presented by the classes that had been graduated five, ten, fifteen years, etc.; about 1600 attended this Commencement Day celebration.

RELATIONS OF THE PRESIDENT OF THE INSTITUTE TO THE COUNCIL:

The pleasant relations with the President of the Institute which have existed since the formation of the Council have grown to be even more intimate during the past year; and the confidence and appreciation shown by Doctor Maclaurin in the efforts of the Council to assist the Institute is very conspicuous. Three times during the past year has the President of the Institute announced to the alumni important events in the history of the Institute.

In February, through the Council, public announcement was made by him of the choice of the architect for the buildings of the New Technology, Mr. William Welles Bosworth. In October he showed to the Council, before they were made public, the plans for the new buildings, and at the last meeting, on January 7, he presented to the Council, confidentially, the plans for further co-operation of the Institute with Harvard University.

SPECIAL COMMITTEES APPOINTED TO ASSIST THE CORPORATION:

During the past year three important committees have presented their reports to the Council. The Committee on Student Housing made its final report at the meeting of March 17. This report, which is probably as comprehensive and valuable a study of the problem as has ever been presented to any college, was enthusiastically received by the Council and transmitted to the Corporation of the Institute through the President.

The second important subject considered in connection with the New Technology was that of plans for the Walker Memorial. At the request of the Walker Memorial Committee a sub-committee of five men was appointed by the President of the Institute and this committee made a report to the Walker Memorial Committee and then to the Council. This report was listened to with much interest and the Council voted to approve the general plans and recommendations outlined.

A discussion of the question concerning the biography of Gen. Francis A. Walker was suggested by this committee. A committee of the Council was appointed to consider it and later voted, subject to the Walker Memorial Committee's being able to finance this proposition, that the Council Committee be authorized to appoint a biographer.

The third committee report, and a most important one, was submitted by a committee of the Council appointed to consider the establishment at the Institute of a course in business engineering. The report recommended the establishment of a new course to be known as the "Course in Engineering and Business Administration"; and presented a tentative outline of the subjects to be taught in such a course. The Council, upon hearing this report, voted to express to the Council Committee the opinion that there is a real demand and an important field of usefulness for work outlined by this committee. The report was referred to the

Corporation with considerable pride and since that time has been referred by the Executive Committee of the Corporation to the Faculty of the Institute. The Faculty has already appointed a committee to consider the report and it is hoped that such a course will soon be established. This report has been reprinted by the Council and circulated to those interested in the subject, and has received most favorable criticism.

ATHLETICS:

The President of the Institute presented to the Council a letter which had been received by him from the Advisory Council on Athletics, concerning the financial needs of the athletic organizations at the Institute. A special committee was appointed by the Council and it was voted to appoint a "boosting committee" to do all that it could to obtain a large representation of the alumni at the Tech Show which was held at the Boston Opera House for the benefit of athletics at the Institute. Your committee did its work well, for over $1,200 worth of tickets was sold to the alumni. The association spent about $130 in connection with this; a direct contribution to Institute athletics.

SPECIAL VOTES OF THE YEAR:

During this past year the Council voted to postpone the all-Technology reunion from 1914 when it would have been held, to 1915, so that the new buildings of the Institute could be viewed by the alumni; and that in the future the Boston reunions should be held in years whose numerals are multiples of five.

The Council urged that President Maclaurin make a trip among the branch associations between here and the Pacific Coast.

A vote concerning representation was made at a recent meeting, whereby no individual should represent more than one society having representation on the Council. Plans have already been made whereby the societies are asked to elect representatives for the coming year, in line with this vote.

FINANCIAL STANDING:

The question of the finances of the association received the serious consideration of the Council early in the year. With the accumulated deficit from previous years, with an unusually large appropriation for the annual dinner in New York last January,

and with the prospect of added expense due to the financing of the activities of the Technology Clubs Associated, it was apparent that the ordinary income of the association would be insufficient to meet current expenses and that the close of the year would see a deficit of considerable size. To meet the situation the question of raising the dues was again brought to the attention of the Council and was referred to a special committee for report. Letters were received from some of the local associations protesting against an increase in dues. After a thorough consideration of the matter the Council endorsed the suggestion made by the governors of the Technology Club of New York that a new class of membership be created to be known as "sustaining members" for whom the annual dues should be ten dollars. As this necessitated a change of the constitution of the association it could not be made effective for the year 1913, but the necessary amendment was prepared and recommended by the Council, submitted to the association at large by letter ballot and adopted at the annual election in December. The by-laws have been changed by the Council to conform to this change in the constitution, and the grade of "sustaining membership" became effective for the fiscal year beginning January 1, 1914. These are the only changes made in the constitution and by-laws during the year.

The financial statement for the year 1913 shows a deficit on December 31 of $1,220.78. As the accumulated deficit at the beginning of the year was $531.44, it is seen that the expenses for the year exceeded the income by $689.34. This deficit, it could be said, is more than accounted for by the $400 appropriated for last year's banquet plus the $130 spent in connection with the promotion of the Tech Show for the aid of athletics at the Institute, plus the deficit of the Technology Review. The income earned by the alumni office from outside work has shown a falling off due to the fact that the Alumni Fund Committee, which furnished so much work the previous year, has been marking time.

The outlook for 1914, however, is more hopeful than might appear from the figures given above. With the call for dues sent out on the first of the present month a special effort was made to enroll alumni as sustaining members and the response has been gratifying. In a little over two weeks almost $1,000 has been received from sustaining membership fees, and the returns are still coming in, day by day, so that it is hoped the dues from

sustaining members for the year 1914 will be sufficient to wipe out the accumulated deficit of the past three years.

WALTER HUMPHREYS,
Secretary-Treasurer.

FINANCIAL STATEMENT

Resources

Cash,			$87.56
Accounts Receivable:			
A. A.	$371.19		
REVIEW	1,467.93		1,839.12
Furniture and Fixtures,			131.85
Inventory:			
M. I. T. Seals,			18.00
Supplies,			44.00
			$2,120.53

Liabilities

Life Membership,		$100.00	
Notes Payable,		1,000.00	
Accts. Payable A. A.:			
A. D. Maclachlan,	$25.00		
McGrath & Woodley,	3.75		
Mass. Inst. Tech.,	27.72		
Thomas Todd Co.,	175.86		
Underwood T. Co.,	.60		
Samuel Ward Co.,	3.76		
Twin-Elm Spg. Co.,	2.75		
		239.44	
Accts. Pay. Review:			
John Andrew & Son,	$35.00		
H. K. Burrison,	1.50		
Cook-Vivian Co.,	15.40		
Hub Engraving Co.,	55.73		
Rumford Printing Co.,	1,115.60		
S. D. Warren Co.,	321.30		
		1,544.53	
Dues and Subscriptions in advance,		444.00	
Tech Clubs Associated,		13.34	
Excess of liabilities over resources,			1,220.78
		$3,341.31	$3,341.31

Alumni Association

Expenditures, 1913		*Income, 1913*	
Banquet, 1913,	$400.00	Dues, 1913	$3,404.00
Carfare, Ex., etc.,	16.70	Back Dues (1912)	159.00
Collection Expense,	20.63	Interest and Discount,	30.74
Council Expense,	51.30	"Potlatch Chantant,"	132.35
Labor A. A.,	1,887.82	M. I. T. Seals,	15.00
Mimeograph Supplies,	8.95	M. I. T. Buttons,	3.89
Misc. Expense,	156.83	Profit on labor,	468.44
Printing,	457.03	Profit Mimeograph,	94.01
Postage,	755.73	Profit Supplies,	34.00
Secretary's Salary,	500.00	Profit Printing,	26.13
Stationery and Supplies,	191.48		
Tech Show,	128.67		
Tel. and Tel.,	6.70		
Traveling Expense,	63.40		
10% depreciation on fur. & fixt. bt. 1913,	14.65		
	$4,659.89		$4,367.56

Review

Editor's Salary,	$1,000.00	Subscriptions, 1913,	$3,412.06
Cf. Ex. and tel. and tel.,	10.46	Advertising, 1913,	2,316.70
Illustration,	596.31	Cash Sales	13.41
Labor A. A. Office,	642.80		
Paper,	1,538.78		$5,742.17
Postage,	411.94		
Print., Bind. and Mail.,	1,859.54		
Supplies and Expense,	30.35		
	$6,099.18		
Profit and Loss,	40.00		
Total Expenditures,	$10,799.07		
Total Income,	10,109.73		
Excess of Expense over Income,	$689.34		
Deficit, 1912,	196.74		
Deficit, 1911,	334.70		
Total Deficit,	$1,220.78	Total Income,	$10,109.73

At the annual meeting, January 19, the following report from the Walker Memorial Committee was read and approved and ordered placed on file:

REPORT OF THE WALKER MEMORIAL FUND, JANUARY 1, 1914

Receipts:	
Subscriptions received by treasurer of Alumni Committee,	$83,258.34
Interest,	1,305.43
Subscriptions received by treasurer of Institute,	11,853.34
Interest on Fund after investment to January 1, 1914,	51,215.17
	$147,632.28
Expenses:	
Bills paid by treasurer of Alumni Committee,	$2,704.25
Bills paid by treasurer of Institute,	1,332.10
Total bills paid,	4,036.35
Less appropriation of association,	600.00
	3,436.35
Balance in hands of Alumni Committee,	2,409.52
Balance in hands of treasurer of Institute,	141,786.41
	$147,632.28

Respectfully submitted,

(Signed) H. W. TYLER, *Chairman of Committee.*

January 17, 1914.

The following report from the Committee on Permanent Funds was read and accepted:

BALANCE SHEET, JANUARY 1, 1914

Cash on hand,	$2,132.87	Rogers Scholarship Capital,	$9,098.44
Stocks and Bonds,	16,915.00	Rogers Scholarship Loan Acc't	11,296.74
Personal Accounts,	8,915.00	Life Membership Capital,	7,683.44
Notes Receivable,	1,000.00	Alumni Fund Capital,	884.25
	$28,962.87		$28,962.87
Income from Stocks and Bonds in 1913,		$947.04	
Income from Money in Bank in 1913,		31.68	
			$978.72
Loaned from Rogers Fund in 1913,	$1,675.00 to 26 students		
Rogers Loans returned in 1913,	1,100.00 by 16 students		

MISCELLANEOUS CLIPPINGS

Tech-Harvard Alliance

A great saving of money and administrative labor has been accomplished by the arrangement between Harvard College and the Massachusetts Institute of Technology, which provides that a large part of the funds of the large McKay bequest to Harvard for technological instruction shall support the instruction now given at the Institute of Technology instead of duplicating it. It was a difficult matter to arrange, having due regard for the intentions of the testator, and the obligations of each institution to itself. The first attempt broke down because it planned for a degree of merger that clashed with the sentiment of the Tech graduates. As now accomplished, and apparently lawful and satisfactory, it seems an admirable and most exemplary and intelligent piece of work.—*Life*, New York.

The Heritage of a Tech Man

Attendance at a gathering like Saturday's meeting * of the Alumni Association is a remarkable eye-opener to a Technology undergraduate. It is not what is said in the addresses—though they are always full of genuine vital interest—that makes the deepest impression; it is what one sees in the audience. From the table marked "A Picked-Up Lot," at which were seated half the living members of '68, the first class to graduate, to where the "thirteeners" were gathered, only clean-cut, clear-eyed men were to be seen; men in whose faces shone the desire and the ability to accomplish real things in the work of the world. As one of those present remarked to the writer, "If all the results of human endeavor were to be wiped out, this gathering of men could rebuild at least a substantial portion of the loss."

The heritage of a Tech man is indeed a priceless one.—*The Tech.*

A Chair of Aëronautics

Following close upon the official recommendation in favor of using airships to carry the mails, there is interesting significance in the announcement of the establishment at the Massachusetts Institute of Technology of courses in aëronautical engineering, in the handling of which an expert detailed by the United States Navy Department will coöperate. This is not the first instance in which the science of air navigation receives recognition in a collegiate institution. Heretofore, however, the subject has been treated in a superficial manner, without practical laboratory work, and it remained for the Massachusetts institution to take it up in practice as well as in theory and to enter seriously into the lines of research and development

* Annual banquet.

requiring to be followed if aviation is to have the same attention as other sciences. Considering how far the science has already advanced and what large advantages are securable from its fuller development, it is apparent that the Massachusetts departure is a wise one and it may be predicted that the example thus set will soon be followed by all other American institutions where technological training is conducted on a large scale. —*Pittsburgh Chronicle Telegraph.*

An Anecdote of the President

There will be some distinguished academicians in town Saturday. Local sons of Eli will assemble at the University Club to welcome President Hadley of Yale, while President Lowell of Harvard and President Maclaurin of Boston Tech will be the guests of honor at the dinner of the Harvard alumni. In view of the coming meeting between Michigan and Harvard on the football field, which will be a test of strength between the East and West, the moving pictures of the recent Yale-Harvard game which will be shown by Percy Haughton, the Crimson coach, should prove of interest. The dinner, moreover, will be in the nature of a jubilee over the consolidation of the Harvard scientific school and Boston Tech, which means that the resources of these institutions will be doubled.

In connection with President Maclaurin's visit the following story might not be amiss. Doctor Maclaurin was traveling on a smoking car when he made the acquaintance of a rather visionary young man. As the train drew up at an inland station the young man pointed to a lofty building.

"Ten years ago," he said, "I could have purchased the land on which that building stands for $7,000. It is now worth many times that sum."

Doctor Maclaurin, who is intensely practical, regarded him closely. "And did you have the $7,000 at the time?"

"No—not exactly."

"Well, then," concluded the Scotchman, "I wouldn't let it worry us." —*Chicago Inter-Ocean.*

An Important Step Forward

In the daily press there have already been set forth the outlines of the plan for coöperation in engineering studies between Harvard University and the Massachusetts Institute of Technology. These are in effect that for the four courses in applied science; namely, mechanical, electrical, civil (to which sanitary engineering is attached), and mining engineering (with which metallurgy is affiliated), Technology in its new plant beside the Charles will direct and actually conduct the studies and investigations, while Harvard will contribute of its funds. The University is to give up entirely its graduate schools of applied sciences (in these branches) and the funds now at their disposal will be paid out by the bursar of Technology for instruction

within Technology walls. The President of the Institute is to be executive head, and the Faculty of the Institute, the board to prescribe courses, etc. The latter is to be enlarged by the addition to it of the instructing staff of the University schools that are to be discontinued.

Efficiency is to be gained by this concentration of effort, an important step forward and in contrast to the prevailing educational custom in America of maintaining at great cost competing courses in the same departments in colleges that serve the same community. It is the community that pays for such things, and educational alliances mean material economies in cash besides those which the union of the faculties entails. With coöperation it is possible for the students of both institutions to have the advantages of strong men for instruction of a quality that it would be folly for each to maintain separately. The Tech-Harvard alliance means a fuller utilization of the splendid men in both faculties for the benefit of the students in both colleges.

The general story has hitherto been of this nature, the benefit to the community. There is another phase which interests engineers, the question how the students are to be affected. The *Scientific American* is pleased to present this side of the case from President Maclaurin's address to the students of Technology at their recent convocation.

Here the terms of the agreement were commented on and three phases considered, the effect with reference to the Corporation of Technology, the Faculty and the students, respectively. The Corporation will have from the outset a little more money to spend, though not much comparatively speaking. The annual income of Technology is about $700,000, and Harvard will contribute about one-tenth as much. The Faculty will be affected only by the addition to its number of a few members from Harvard, not many.

The students of Technology will be affected very little. All the men for the engineering courses will enter the Institute together. At a certain time, as now, the question will be asked as to what course is to be chosen. If this be an engineering course in any of the departments affected, the further question will then be asked, as to which course, Harvard or Technology, is to be taken.

The student pursuing the courses in the Institute alone will not be in any way affected. If he should designate that he intends to follow the Harvard course, or both, which is by no means out of the question, he will then have certain advantages. He can go into the museums of Harvard and study if he wishes. He will have the privileges accorded to students at the libraries of Harvard. Among the minor advantages will be the privilege of subscribing to the Symphony concerts in Cambridge, the use of the Stillman Infirmary (on payment of fee) and he can make use of the athletic field of Harvard. Among the important advantages

will be the privilege of attending without fee certain Harvard lectures outside of the course selected.—*Scientific American.*

From Study to Forum

So far as education is conceived of as a matter of the study and not of the forum and the market-place, it is doomed as medieval in aim and method by contemporary democracy. By that we do not mean that the humanities must give way to the utilities and that the scholar, whether teacher or student, is not to guard his academic rights of leisure to delve into the past and to brood over the future, as well as to serve the present. No! The fact back of the statement is this. University and state, college and city, wisdom and government are becoming active allies rather than passive friends. The function of the school is being conceived of in terms of direct welfare action on adult as well as on juvenile inhabitants, action planned for and as much a normal part of the institution's duty as the process of classroom instruction or laboratory research. Working under this theory the public school now sets aside its building for civic uses other than formal schooling; the college, whether rural or urban in site, becomes the ally of all community welfare agencies, and sets its teachers and students at work studying and solving problems needing solution; and the university becomes in reality chief factor in a democratic system of education, knowing no local bounds to its campus and no exclusion of any person from its proffer of expert aid. To this ideal many of the state universities now are pledged, and in obedience to it they are reducing illiteracy, raising totals of personal and community wealth, and making more rational municipal and state legislation.

To this same conception of a broader and more active institutional service the older and privately endowed universities and technical schools of the Eastern States of the United States must come, we feel sure, as a matter of tactics if for no other reason. Already some of them see the gleam and are following it. The most recent announcement of a purpose of this kind is by the Massachusetts Institute of Technology in its attitude toward Boston, its present, and Cambridge, its future site. Harvard of late, in various ways, has been putting its educational, architectural and town planning resources at the service of the public.

Of course it will be the duty of these new advisers of communities, small or large, to prevent that unnecessary interference with individuals which is the temptation of civic authorities at times of revolt when liberty has turned to license. The academic adviser is supposed to know something of the past as well as of the present, and to have memories as well as hopes, even memories of the tyranny that often has come from well intentioned power used by the many as well as by the few. He will need to proceed carefully.—*Christian Science Monitor.*

An alliance of Harvard and the Massachusetts Institute of Technology has been in the air for some time. Both institutions have long been pre-eminent in the field of applied science, and naturally there has been useless competition, but friends of each institution have feared that in merging their interests the institutions might somehow lose their individuality. The plan for coöperation in their courses in engineering education just announced will dispel these fears and is a plan that promises unlimited service to the cause of science.

Favorable to Both Institutions

The coöperation now announced is definitely limited to the courses leading to degrees of mechanical, electrical, civil, sanitary and mining engineering. The promotion of research in these branches will be given jointly by the faculties of Harvard and the Institute in the new buildings of the Institute now under construction on the Cambridge side of the Charles River.

Harvard will devote to the conduct of these merged courses the income of funds of the Lawrence Scientific School, at least three fifths of the income of the Gordon McKay endowment, and all the instruments and equipment used in these advanced courses. The Institute will devote the income of all funds that it has for the promotion of the branches of applied science.

The University and the Institute are to remain absolutely unaffected in name, organization and rights over property. Each is to retain complete control of its own financial resources. Each is to be free to lay down such regulations as it likes with regard to courses leading to its own degrees.

President Maclaurin of the Institute will be the executive head of the work carried on under the agreement. The Faculty of both institutions will be pressed into service and such new appointments as are made to the instructing staff will be made with the approval of both Corporations.

The inauguration of this plan cannot be made until the new Technology plant is completed, which will probably be two years hence. For the first ten years of the agreement students' fees from both institutions will be contributed to both in proportion to the number of students following the courses. At the end of ten years a change will be voted if deemed necessary.

The plan in its entirety is favorable to both institutions. Both gain thereby, and nobody cares which gains the more. The gain for science and for the community is immeasurable. It is a generous undertaking for the advancement of scientific education. It will give Boston a school of unequaled resources. Great credit is due the institutions for their recognition of this larger aim.—*Journal of Education.*

NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston Mass.

The class secretary of '68, just before the Chicago reunion, went to the New York meeting of the American Institute of Mining Engineers where some very interesting papers on mining law were being read and discussed. He met many friends there and had a most enjoyable meeting.

Starting from New York with five New Yorkers for the Chicago reunion the party joined with that coming from Boston in their special car and the journey from Albany to Chicago was most delightful. Members who had not had a chance to see each other for years were able to sit down and hobnob to their hearts content.

The class of '68 was represented in Chicago by Col. Andrew H. Russell and Robert H. Richards, both of whom were present at all the functions so hospitably laid out by the Chicago alumni. The smoker on Friday evening gave the various *departments* a splendid chance to get together and talk over their experiences. The banquet on Saturday evening gave the *classes* a splendid chance to get together. It seemed to us that the whole meeting could not have been laid out better.

1872.

C. FRANK ALLEN, *Sec.* Mass. Inst. of Tech.

Bradford Homer Locke, who died February 22, at Arlington Heights, was born in Charlestown fifty-four years ago and was the son of the late Andrew J. Locke of that place, who was long treasurer of St. John's Church in Charlestown. Mr. Locke's mother was Susan Durell Ware of Needham. He was graduated from the Charlestown High School with the class of 1868, and from the Institute in 1872, and then for many years was a mining engineer, with headquarters in Denver, Colo.

As manager for an English mining syndicate, Mr. Locke made frequent visits to England, as a result of which he joined, in 1900, a mining expedition sent to Abyssinia by Sir Ernest Cassel, to develop the various mining resources of that country. Mr. Locke was the expert engineer of the expedition, but the climate disagreed with him and he became a victim of jungle fever, and did not long remain in the country of King Menelik. After his return to America, he was engaged mainly in developing an electric drill adapted to mining and other purposes, and made his home in New York

City, living at the Engineers Club. Locke was always popular in the class and was the first president of the class organization. He was unmarried and is survived by a brother, Warren A. Locke of Cambridge, organist of St. Paul's Cathedral, and a sister, Mrs. William H. Wentworth of Lexington.

Of former classmates Clarence S. Ward, James E. Stone, William Foster and the secretary attended the funeral services.

1875.

EDWARD A. W. HAMMATT, *Sec.*, 15 Water Street, Newton Centre, Mass.

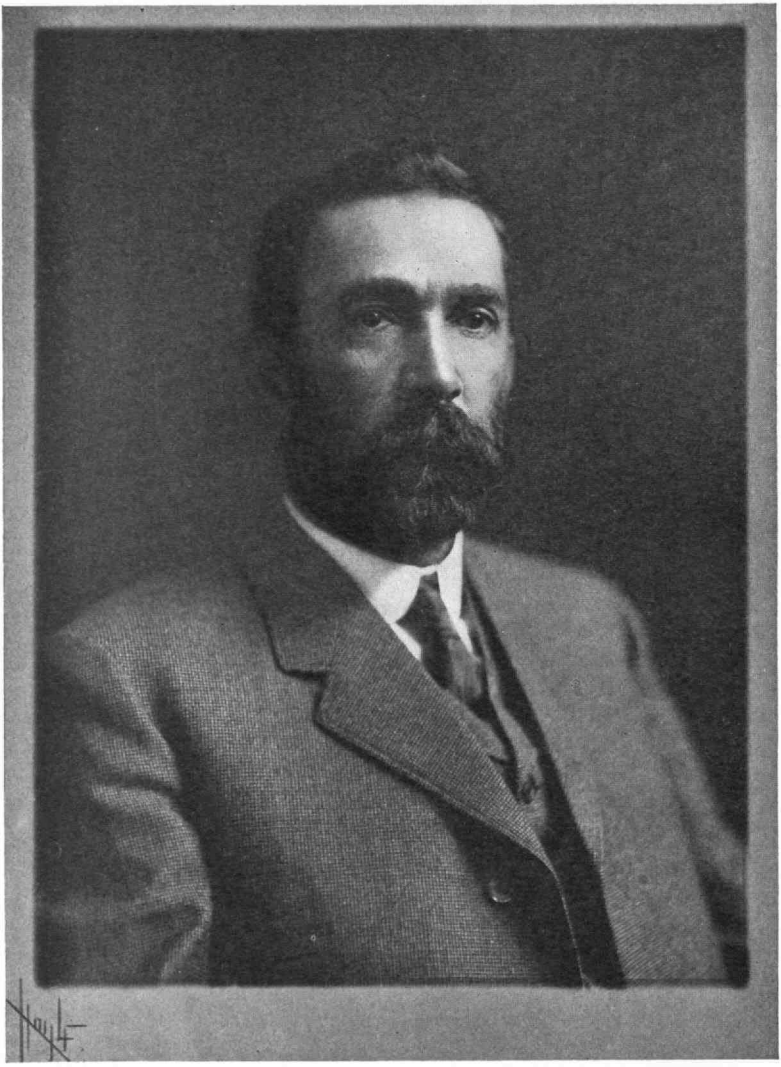
Notices of the annual meeting and dinner of the class were sent out at about the same time as the postals relative to the Tech reunion in Chicago.

W. F. Sargent writes:

> Your invitation to the annual dinner of the class at hand, and do you know, my private opinion of you publicly expressed, is that you are a mean old fraud to keep sending me these alluring invitations to annual dinners, *held in Boston*, when you know right well that I cannot be present, no matter how much I wish to be. What do you think my heartstrings are made of anyway, rubber? . . . But don't think you fellows are the only "September Morns" on the beach, for we Western boys (?) are going to have a little blow out too, and let me say right here that my only regret is that our class will be so poorly represented.

The secretary has been unable as yet to learn who did attend at Chicago as representatives of '75.

Goodale has recently been in Winnipeg and attended the bonspiel of the Manitoba Curling Association. He says they have a good club in Butte, and usually have about 100 days of curling weather each year.—W. H. Shockley writes from Palo Alto, Cal., that he expects to be in this country for several months at least. He is living at 959 Waverly St., but gives me as a business address, care First National Bank, San Francisco, Cal.—Charles L. Harris, who was a member of the class one year, and later entered '77, is running a farm in the Ozark Mountain section, his address being Chelsea Farm, Sabula, Mo.—Willard F. Follansbee has been practicing medicine in Colorado, but on account of his wife's health has gone to California. His present address is 549 Nebraska Ave., Long Beach, Cal.—The annual meeting and dinner of the class was held on March 6 at Young's Hotel at 6.30 p. m. After discussing the dinner President Hibbard called the business meeting to order at 9.15 p. m., when the records of the last meeting were read and approved. The secretary reported, in accordance with instructions at the last meeting, what had been the attendance at each meeting since the one held for reorganization on May 19, 1882, and the number of times each person had been present. The smallest attendance was 5 and the largest 18. The man showing the greatest number of times present had 32 to his credit



CHARLES F. PRICHARD, '76

and the fewest was 1. The secretary-treasurer presented his report which was accepted and ordered placed on file. Ballot for officers resulted in re-election of the old board. Secretary reported progress on data for class directory and personal history, saying that practically 70 per cent of the men to whom blanks had been sent had replied, and he had strong hopes of getting more. Voted to publish such a directory to be issued as of 1915, the exact time of publication to be at discretion of secretary. Those attending were: Aspinwall, Beal, Bowers, Dorr, Hammatt, Hibbard, Lincoln and Plimpton. Adjourned at 11.15 p. m.

The secretary will be glad to learn of the whereabouts of any of the men whose names appear in the following list:

George F. Belden.—William M. Bell.—Edward F. Burton.—Fred H. Bicknell.—Henry Martin Bingham.—Charles H. Cochran.—John B. Correa.—Albert C. Duncklee.—Robert Jaffrey Dustan.—James B. Eastman.—Harrison P. Fay.—George B. Frye.—Newman W. Gardner.—Armand Guys.—John B. Hambly.—Edgar S. Heaton.—Edgar R. Hills.—Benj. N. Howe.—Alfred J. Jaquith.—Stanley P. Jewett.—James A. Knapp.—Almon C. Libby.—William C. Marion.—Louis A. Mitchell.—Kingman S. Nichols.—Louis W. Peck.—Frank H. Pierce.—Edward G. Reynolds.—Francis T. Sargent.—Norris W. Smith.—Spencer E. Smith.—Eugene J. Snow.—William C. Stevens.—Silas W. Stone.—Frank P. Tenney.—Charles A. Williams.

1876.

JOHN R. FREEMAN, *Sec.*, Grosvenor Building, Providence, R. I.

Arthur L. Mills came back from his business ventures in the City of Mexico a few months ago because of the hopelessness of general conditions there and has recently taken the position of general manager of the Fort Smith & Western Railroad Company, with headquarters at Fort Smith, Ark.

It will be remembered that Mr. Mills, years ago, had charge of the rehabilitation of the Clover Leaf lines between Toledo, Ohio, and St. Louis, Mo.

CHARLES FLORENCE PRICHARD.

Charles F. Prichard was born in Marblehead, Mass., June 19, 1856, and died in Lynn, Mass., January 21, 1914.

He was educated in the public schools in Marblehead, and entered the Institute in 1872, graduating in mechanical engineering in the class of '76. He was one of the youngest and brightest members of the class.

After graduation he spent one year in special work at the Institute under the late Prof. Channing Whitaker, and then went to Worcester to learn the gas business, starting in as a clerk with the Worcester Gas Light Company. From there he went to

Pontiac, Mich., as superintendent of the gas company in that city. After a few years he returned east to become superintendent of the Dedham & Hyde Park Gas Company.

In 1883 he went to Lynn as superintendent of the Lynn Gas Company and upon its consolidation with the Lynn Electric Light Company, in 1910, was made manager of both plants. In 1908 he was elected vice-president of the company, and at the time of his death he was vice-president and general manager.

During all these years he had the entire confidence of the owners of the company and was held in high esteem by all the company's employees, and during his term of office the company grew enormously, the plant expanding particularly in the electrical department.

His work and influences were not confined to the Lynn company, for at the time of his death he was associated with many other companies; as managing director of the Salem Gas Company and the Beverly Gas Company, treasurer of the Gloucester Electric Company, director in the Beverly Gas & Electric Company, Newburyport Gas & Electric Company, the Fall River Gas Company, the Essex Trust Company of Lynn, and president of the Lynn Storage Warehouse Company. At the time of his death he was also consulting engineer for the Attleboro Gas Company and the Nantucket Gas Company.

His opinion was sought by many other gas and electric companies and he acted as consulting engineer in many cases of great importance. He was considered one of the foremost experts in the country on gas construction and management, as well as in the financial problems of the business, and those of the relations of such companies to the public. He was called on to make appraisals of the Providence Gas Works and of a large number of plants in this state and all over the country.

The high esteem in which he was held by his associates in similar lines of work is shown by the number of offices to which he was elected. He was the past president of the American Gas Institute and also had been president of the American Gas Light Association, the New England Association of Gas Managers, the Guild of Gas Managers of New England, and was secretary of the Massachusetts Association of Gas Companies, and a member of the Society of Gas Lighting of New York.

At the time of his death he was president of the Oxford Club of Lynn. He was also a member of the Tedesco Country Club of Swampscott, and the Corinthian Yacht Club of Marblehead, and the Engineers Club of Boston. He was also a member of a few exclusive local literary and business clubs in Lynn.

In early life Prichard was extremely fond of the salt water and he never outgrew his love for it. As a member of the Corinthian Yacht Club, he liked to go to the club house and sit on the piazza and look out upon the harbor, in which as a youth he had

so much pleasure and watch the boats and talk with his friends. In later years he became quite fond of automobiling.

His quiet wit and genial companionship endeared him to hosts of friends, and his company was desired on all occasions. His classmates will remember his cheerful presence at the thirty-fifth anniversary of our graduation.

In September, 1883, he married Florence E. Greer of Boston, who survives him. They had two children, a daughter, Mrs. Francis W. Rice, a graduate of Smith College, and a son, Charles Rollins Prichard, a graduate of the Institute in the class of 1905, for some years superintendent of the Beverly Gas & Electric Company.

Never were the words truer than in his case that, "the measure of life is not by years, but by deeds."

C. T. M.

1877.

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

The thirty-seventh annual dinner of the class was held Wednesday evening, February 25, at the Engineers Club, Boston. Herbert Jaques was appointed temporary chairman in the absence of both president and vice-president. The following members were present: J. W. Beals, architect, Boston; C. A. Clarke of the firm of Hill, Clarke & Company, Boston; Albert S. Glover of the Hersey Manufacturing Company, Boston; Herbert Jaques of the firm of Andrews, Jaques & Rantoul, architects, Boston; Walter Jenney, president of the Jenney Refining Company, South Boston; Charles F. Lawton, commissioner in charge of public works, New Bedford; R. A. Hale, consulting engineer, Lawrence; F. I. Sherman, civil engineer, West Mansfield; J. F. Stimpson, industrial chemist, Providence, R. I.; F. E. Peabody of the firm Kidder, Peabody & Company, Boston; B. T. Williston, manager of Hancock Inspirator Company, Boston.

No formal speeches were made, but general reminiscences of Institute incidents were the main subject of conversation. Reference was made to the death of George A. Nelson of Lowell which occurred June 2, 1913, and his constant attendance at the reunions together with his loyalty to the class.

The resignation of John Alden as representative of the class of '77 on the Alumni Council of the Institute was received and Walter Jenney was elected to fill the vacancy. The election of officers for the ensuing year resulted as follows: President, Herbert Jaques; vice-president, B. T. Williston; secretary-treasurer, Richard A. Hale.

Herbert Jaques is a member of the prominent firm of architects, Andrew, Jaques & Rantoul of Boston, president of the Massachusetts Golf Association, the Country Club, in addition to activities in other social organizations. The meeting adjourned for one year.

1881.

FRANK E. CAME, *Sec.*, Metcalfe Apartments, Westmount, Quebec, P. Q.

FRANK H. BRIGGS, *Asst. Sec.*, 10 High Street, Boston, Mass.

A. J. Lewis writes to the assistant secretary:

You ask for something about myself that would be of interest to my classmates. Well! on reflection, that looks like a hard proposition, for the reason that during the thirty-two years that have elapsed since starting out to wrestle with the world, the flesh and the devil, I cannot recall ever having met a class member, so I doubt very much if there are any who would even remember the name.

As a matter of class record, however, the following résumé of how my time has been spent may be of some interest.

From '81 to '83 draftsman in architect's office; '83 to '85 represented Boston Architectural Terra Cotta Company in New York. In '85 I entered the employ of American Telephone & Telegraph Company as special agent, becoming manager of the Boston office on completion of lines from New York to Boston and later district superintendent having in charge all matters in the territory east of a line drawn from Troy, N. Y., through Springfield, Mass., and East Wallingford, Conn.

In '90 married Selina W. Bailey, of Malden, Mass., and have one son, a member of class of 1913.

In '93 entered the employ of the Boston Board of Fire Underwriters and at present time treasurer and assistant secretary.

Lewis' son was the first son of any of the class to enter the Institute, viz., in 1908.—James K. Cabot, Harvard '13, son of Godfrey L. Cabot, is working in his father's business and will probably make his headquarters in West Virginia.—Oscar Munyon writes:

Another grandson, Howard Elmer Gay, arrived about Christmas. Have enough work on the farm not to get "lonesome."

—Bill Rosing is now special engineer of the St. Louis and San Francisco R. R., with headquarters at Springfield, Mo.—Ed. Brown is register of deeds of Merrimack County, N. H., and is taking a very active interest in Masonic matters.—Frank Dort makes his headquarters at the Parker House, when in Boston.—Barnes, Cabot and Briggs represented the class at the alumni dinner, in January. Their table companions were Munroe, Herrick and Snow, of the class of '82.—E. C. Cole has been building a winter house at Miami, Fla. His eldest son, Clifford C. Cole, is superintendent of the Cole Manufacturing Company, "Cole's Hot Blast Stoves and Ranges and Air-tight Wood Stoves," of which our man is president.

Harry Stearns took a pilgrimage to Bermuda, this winter,—"A fine place to rest up in."—Warren writes in January:

While I am always reading about the other fellows it did not occur to me that they would want to hear about me. Perhaps some of the others are in the same boat which might account for the comparatively small amount of news you have had. Guess '81 had better brace up a little. Well, I am doing about the same old thing, devoting my time to natural history, and especially to birds and mammals, and giving particular attention to photographic work on such subjects. Of

late I have been in the field but little. We had a snowstorm early in December which made the old timers think hard to remember when there had been another such. Everybody shoveled snow, from millionaires to paupers. I saw one of the former at it, and you can put me in the other class. I can recommend it as excellent exercise, far superior to football in developing all the muscles of the body. I spent a couple of weeks last summer in Glacier National Park, and a week at the Montana National Bison Range, where I saw a fine herd of the once nearly extinct buffalo. The very last part of the summer was spent about the mountains in this state. Since then I have been pretty good and stayed at home most of the time. Am still honorary director of the Colorado College Museum, and about a year ago was made president of the newly organized Colorado Audubon Society.

—Ira Abbott writes:

Barnes and I did the honors for '81 at the Technology club dinner at the Plaza, last January. I spent last year building a house in South Orange, N. J. (where Tech men will be welcomed and '81 men are expected to show up when in or near New York), doing my regular work for Post & McCord, and making a bluff as treasurer of the Tech Club of New York. That I got through the year with fair success was due to the help of a good New Hampshire wife—I mention this for your personal benefit as it is not too late for you to begin right—but I warn you that you will be sore that you put it off so long when you find out what you have missed.

Barnes went down to Guatemala, where they are building two reinforced concrete merchandise buildings, containing rooms and apartments for the United Fruit Company's employees at this terminal. They have also just finished there a reinforced wharf of about two acres' area, to serve the railroad terminal of the International Railroads of Central America, and as the gateway for not only Guatemala, but eventually Salvador, the west side of Honduras and even Nicaragua. He later went to Honduras to look at a new wharf and hospital which the United Fruit Company are building at Tela, and to make ready for the extension of a concrete wharf at Pocas, Del Tora, Panama, which was built in 1907, and to erect reinforced office buildings and general permanent dwellings. In March he went to Santa Marta, Colomba, where he is erecting a hospital and making some community improvements for the United Fruit Company. He writes that the end of March he expects to shake the hand of Abbott, Allen and others, at the renovated Technology clubhouse in New York. He writes:

Wherever I go I am proud to claim Technology and find its men helping out in my line of work, for instance, Mirick of '93, at Puerto Barrios.

Theodore Parker, who has been in the employ of the city of Boston continuously since he left the Institute, and was appointed in 1891 an assistant engineer in the Bridge Division, was one of those suspended by Mayor Curley in February "in the interest of economy." The suspensions are for five months at least and longer if the mayor finds that the services of the men will not be required after this period.—Major Briggs has been elected by the executive committee of the New England Intercollegiate Athletic Association, as referee for the Track and Field Meet, to

be held at the Stadium, May 22 and 23. This is the first time in the twenty-eight years' life of the association that a man from one of its own colleges has been selected for this position.

Change of Address.

William H. V. Rosing, St. Louis & San Francisco R. R., Springfield, Mo.

1882.

WALTER BRADLEE SNOW, *Sec.*, 170 Summer Street, Boston, Mass.

The thirty-second anniversary dinner was held at the Engineers Club on Thursday, February 5. The following members were in attendance: French, Gooding, Hall, Munroe, Snow, W. B., Thompson, and Warren. This was the first occasion on which Thompson had met with the class since he left the Institute. At the time of the dinner Cochran, Deering, Ross and Walker were in Europe or on the way.

At the recent annual meeting of the National Association of Woolen Manufacturers, John P. Wood was re-elected president. —Mr. and Mrs. A. W. Walker sailed on the *Celtic*, January 24, for Egypt where they will spend about a month in travel returning via Italy for two weeks' stay, and probably arriving home in April.—Miss Clara Preston Ames will as usual conduct a small party on a four months' trip to Europe, sailing from Boston April 25 on the steamship *Canopic*.

John F. Low has just changed his residence address to 123 Pearl street, Newton, Mass. He lays claim to being the first grandfather in the class, a granddaughter, Dorothy Gray, having been born on October 11, 1913. Does any member of the class rise up to dispute the claim?

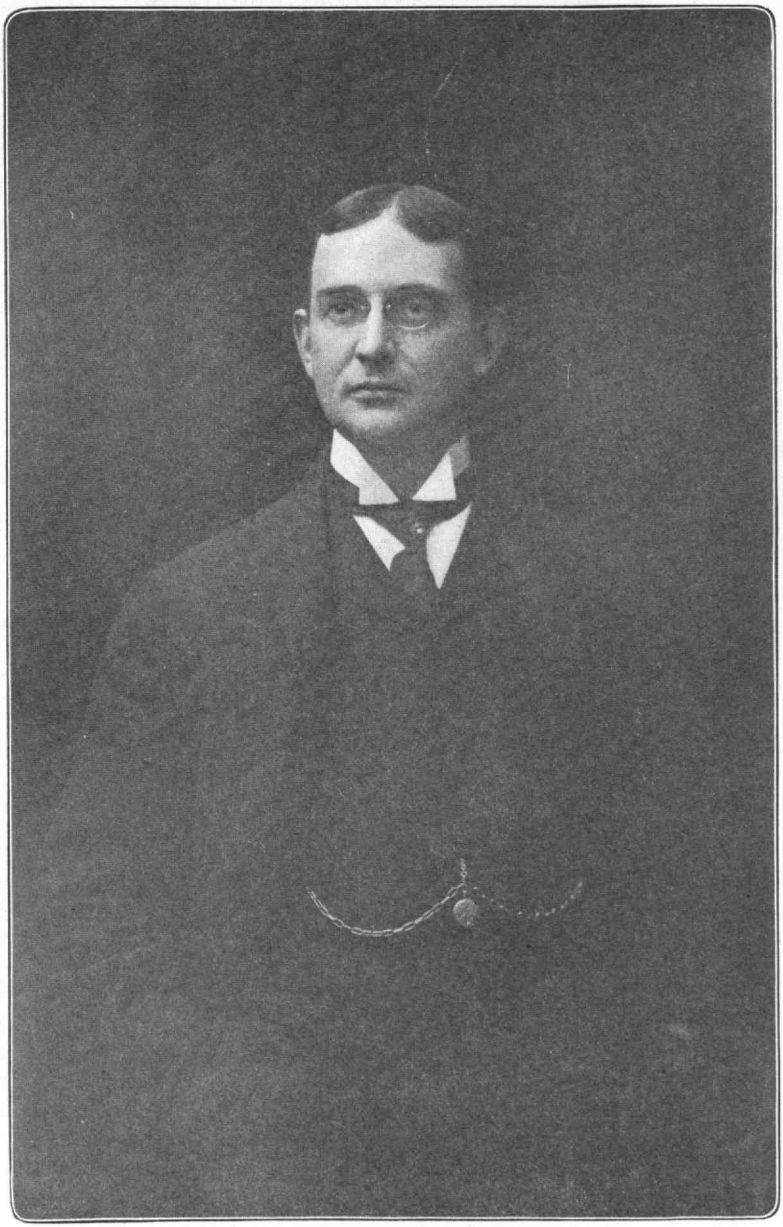
1885.

I. W. LITCHFIELD, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

At the dinner of the New York Technology Club, January 17, '85 was, as usual, well represented. Those present were: Frank A. Pickernell, Sid Williams, Alex McKim, Ed. Dewson, Everett Morss, Ed. Mumford, and Litchfield.

On account of the superior attractions of this contingent, Billy Sargent, '87, and Ned Hagar, '93, cast their lot with the '85 table and expressed themselves as highly honored at having the opportunity.

Charles R. Richards, director of Cooper Union, New York City, lectured early in February at the Metropolitan Museum of Art in New York City on the subject, "French Furniture in the Seventeenth and Eighteenth Centuries." Prof. Richards has spent a great deal of time in studying this subject in Europe.—A. D. Little was a recent lecturer before the Chemical Society of



OAKES AMES, '85

the Institute of Technology, his subject being, "Technical Reports." He emphasized the necessity of being able to write acceptable reports for development interests, saying that the reputation of an engineer is gained through the quality of the reports submitted.—Henry Martin has moved from Glens Falls, N. Y., to New York City. His present address is care of International Paper Company, 30 Broad St., New York City.—E. B. Homer has just been made chairman of the City Planning Commission of Providence, R. I., for a period of three years. The commission has advisory and recommendatory powers in relation to the physical growth of the city, including the erection of public buildings, the laying out of streets and parks and all things relating to the "city beautiful" idea.—Dr. Schubmehl is medical director of the General Electric Works at Lynn, where he is doing a tremendous amount of good for the employees—not only in a medical way, but as an adviser and friend. He is very enthusiastic about his work there.

Eighty-five was represented at the Chicago convention by its two Chicago members, Morris L. Greeley and Heyward Cochran; also by Charlie Eaton, H. P. Talbot and Litchfield, who went on from Boston. Neither Greeley nor Cochran have seen many '85 men since they left the Institute, and it was a mutual pleasure for this '85 delegation to get together. Talbot made an excellent speech at the departmental dinner in Chicago on the 20th.—J. P. Harding called on the secretary recently and passed a pleasant hour reminiscing—as old people will. Jack came in to inquire when the next Onset reunion would be held.—Frank Page is still in Europe. It is said that Frank returned to Springfield for a few days, but went abroad immediately before bills for class dues could reach him.—Old Bill Mullins out in Franklin, Pa., is a truly sympathetic friend, and the secretary is indebted to him for a number of good letters anticipating the 30th anniversary of the class which will come next year. By the way—at the next meeting, discussion of the anniversary arrangements will be started. The celebration will come in the same year as the great Technology reunion.—Nat Robertson blew into Boston one day in February and stayed a few hours, and then went back to Scranton, Pa. He gave two of his classmates a short treat in passing.

Oakes Ames

Oakes Ames died at his home at Milton, Mass., of heart disease on February 23, toward the eve of his fifty-first birthday. He had realized the nature of his malady for several months but met the situation quietly and bravely and continued to attend to his affairs until a few weeks before his death. He died as one would wish to die, peacefully, in sleep, after a happy and hopeful day.

Oakes was born in Canton, Mass., and was the son of Frank M.

Ames and Katherine (Copeland) Ames. His grandfather was Oakes Ames, the builder of the Union Pacific Railroad, and the constructive instinct was strong in Oakes. His early fondness for mechanics was fostered and developed through daily familiarity with the operations of the Kinsley Iron & Machine Company, owned by his family and located within a hundred feet of his home. As a youth he was keenly interested in athletics and won many prizes in bicycle races at Martha's Vineyard, riding the old high wheel. He was locally famous as pitcher on the Canton nine and never lost his interest in the game. He entered the Institute with the class in 1881 and almost immediately formed friendships with his classmates which endured without break or exception to the day of his death. The sincerity and loyalty which were the hall marks of his character evoked and held a like response.

After two years at the Institute Oakes entered the employ of the Kinsley Iron & Machine Company and remained with that concern a few years until his interest was enlisted in the problems involved in the transfer of cash and parcels in large stores. He became president of the Lamson Store Service Company and soon thereafter recognized the great possibilities of pneumatic transmission. He was influential in the formation of companies making cash carriers, coin holders and coin storage trays and became a prominent figure in the extension of pneumatic service in stores, banks, manufacturing plants and in the rapid transfer of the mails through underground tubes in cities. At the time of his death he was president of the Lamson Company, vice-president of the American Pneumatic Service Company, president of the Martin Cash Carrier Company and the Air Line Carrier Company, director of the Batcheller Pneumatic Company, Chicago Postal Pneumatic Tube Company, Boston Pneumatic Transit Company International Pneumatic Service Company, Massachusetts Pneumatic Tube Company, New York Mail & Transportation Company and St. Louis Pneumatic Tube Company. He was also associated with gas and electric companies in several Massachusetts cities and with other corporations.

About ten years ago he organized and became president of the Massachusetts Telephone & Telegraph Company, an independent company to compete with the New England Telephone & Telegraph Company, and in 1907 brought suit for $250,000 against Charles W. Morse, whom he charged virtually with having strangled the young company. He also maintained a long and uphill fight which resulted in a reorganization of the American Pneumatic Service Company and the elimination of certain elements which he regarded as detrimental to its policy and success.

In 1883 Oakes went abroad and there met in Paris Miss Florence Ingalls, of Detroit, whom he married in 1886 and by whom he is survived. He also leaves a daughter, Miss Amelia C. Ames, and two sons, Oakes I. Ames and Charles E. Ames, both students at

Harvard. The Harvard Alumni *Bulletin* for January 7, 1914, announces the award to Oakes I. Ames of a Harvard College scholarship, without stipend, for the marked excellence of his academic work.

Family ties had for Oakes an unusual significance and strength. He found his chief pleasures in his own home or those of members of his immediate family. He belonged to few clubs but always attended class gatherings and entered with keen enjoyment into their spirit.

It is twelve years since Death has entered the ranks of the class of '85. He could have taken no more loyal member, more steadfast friend or truer gentleman than Oakes Ames, whose memory we shall hold perennially fragrant in our hearts. A. D. L.

Talbot sends the following words of appreciation of Ed Dewson's son, Harvey:

The heartfelt sympathy of all of us in '85 must go out to Ed Dewson, and his family, in the loss of his son, Harvey Field Dewson, who died at Quincy on February 24. His death came almost without warning, as the result of some obscure form of paralysis. It is the more saddening because Harvey Dewson combined a vigorous, sturdy manhood with exceptional professional promise, and with personal traits which had made him highly respected among his instructors and his fellows. He had shown high scholarship before coming to the Institute, having won first place in 1908 at Grammar School No. 69 in New York City, for which he received the gold medal of the Alumni Association of that school, subsequently standing third among two hundred and five boys at the DeWitt Clinton High School, for which he received a bronze medal for high scholarship and general excellence. Later, among eighty-five contestants from New York County for State scholarships at Cornell University, he ranked first. At the time of his death he was a member of the sophomore class at the Institute, in the course in sanitary engineering, and his records were such as to occasion unusually favorable notice. Throughout all of these schools, and at the Institute, he had also found time for a considerable amount of athletics, having been a member of basket-and baseball teams at the secondary schools, and of the class tug-of-war and football teams at the Institute, and was captain of the class basket-ball team at the time of his death. The esteem in which he was held among his fellows is indicated by his election to the vice-presidency of the sophomore class this year, and to the *Technique* 1916 Electoral Board. In his relations as grandson, and brother, he deserves only praise; his ideals throughout were of the highest. Although his parents must still find great happiness in the companionship and comfort of their two daughters, the loss of an only son of such unusual promise cannot be other than overwhelming, and they need, and have, our deepest compassion.

1886.

ARTHUR GRAHAM ROBBINS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

J. Waldo Smith was married on December 30, last, to Miss Anne Louise Morse of Brooklyn, N. Y.—Noyes has been spending several weeks at the Throop Polytechnic Institute, Pasadena, Cal., where he is being consulted in regard to the arrangements of the new chemical laboratories and where he will, during the second semester of the year, conduct courses and give lectures in chemistry.—Farmer, Fletcher, and Miller were the '86 men present at the Chicago reunion.—Woodbury's "Rainbow" at the Vose Gallery, and his vignettes of Jamaica, Porto Rico, Grenada, St. Thomas, and Cartagena at the Copley Gallery have been receiving marked attention and most favorable comment.

1887.

EDWARD G. THOMAS, *Sec.*, Boss Mfg. Co., Kewanee, Ill.

With Sturges as president and Shortall, Green and Schmidt in charge of his committees, the all-Technology reunion of the Northwestern Association could not fail to be a grand success. Your secretary was the only representative of the plain or garden variety of '87 man—the sort who did not have official duties or sit at the head table. It seemed like old times to see Mon Sturges running things.

Coburn has sent to me the material which he collected in the hope of publishing a class book and I plan to make use of it for some statistics, if for nothing else. In it, however, I find the sad story of "T. D" Brainerd. When last heard from he was spending the long hours of a business day from eleven to one o'clock, every now and then, as president or owner of a powder company in Montreal, but evidently his job blew up or he got fired, for now read what he writes to Coburn, under date of last May: "Your letter was received this morning, and I thought very seriously before deciding against joining the 25th year gathering. It comes, unfortunately, at the flood of the salmon fishing, and that I can't give up.—I quit work three years ago and now shoot, fish and farm, the latter being most enjoyable. Spend winters at a shooting club in South Carolina, where we own sixty thousand acres of land; summers, barring August, here (Flatlands, N. B.) where I have gradually got together a very nice piece of water on the Restigouche and own a pretty place. Interims are filled in at Montreal, where a mother, sister and three unmarried brothers all live together. I am turning into a green stick, very set in my ways and very much in a rut. Started for Japan last autumn and could not stand it farther than London.—I don't think you business men know what work is, however. Yesterday, for instance, I caught

about a bushel of coarse fish and put them on a flower bed, mended a curtain, painted the disk of a shower bath, killed a kingfisher, showed my cook how to cook lobster Newburg and bought a mountain for $1140. All today have been planting trees in a howling easterly."

It has just been announced that Henry Souther has been elected vice-president of the Ferro Machine & Foundry Company, Cleveland. He began his career with the Pennsylvania Steel Company, Steelton, Pa., leaving there to become engineer for the Pope Manufacturing Company, Hartford, makers of bicycles and motor vehicles. In 1899 Souther opened an office at Hartford as consulting engineer. In this capacity he became consulting engineer to the Association of Licensed Automobile Manufacturers. He was president of the Society of Automobile Engineers during 1911.

Souther's experience with the motor industry has been of the broadest, and more recently this work has involved questions of management and system.

About 100 students of the Institute were guests, February 20, of the Civil Engineering Society of M. I. T. at a smoker in the Tech Union. Howard L. Coburn, chief engineer of the Ambursen Hydraulic Construction Company, spoke on "The Rambles of a Dam Builder," showing nearly 50 slides of the recent big undertakings in irrigation in Alberta, Can., Porto Rico, and in Douglas, Wyo.

Royal B. Young who had not been in good health for some time, started South in December intending to be away for several months. News of his death at Tucumcari, N. M., was received by his family, December 30. The following sketch of his life appeared in the *Boston Transcript:*

Royal Bosworth Young was a native of Boston and born forty-seven years ago. He was the son of Joseph Chester Young, who, early in life, went West, and the grandson of Royal Bosworth, a Boston merchant. Mr. Young was graduated from the Public Latin School, and from Technology with the class of '87. After a few years in business, Mr. Young turned his attention to the law and was admitted to the bar. At the time of his death he was a partner in the firm of Young, Hill & Marks. His wife, who was Miss Caroline Orth, sister of John Orth, the composer, survives him, with a son and a daughter.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

An article by Edwin S. Webster on "The Advantages to the Public of Centralized Management of Public Utilities," appeared in the statistical issue of the *Electric Railway Journal* published January 3, 1914.—Allen Hazen recently made a professional trip to the Pacific Coast covering a period of about a month.—L. A. Ferguson was very active at the Chicago meeting and was largely responsible for the great success of the Saturday night banquet.—

B. R. T. Collins has been appointed representative of the Northwestern Alumni Association on the Alumni Council.—Wilson B. Parker of Indianapolis is the secretary of the new Indiana Association, M. I. T.—B. G. Buttolph reports having had a pleasant call in Cleveland, on Hiram E. Baldwin, formerly with the Brown Hoisting Machinery Company of Cleveland. He is now with the Novelty Iron Works in Cleveland.—William G. Besler in response to a request for class news writes:—

I have your note, and have had almost everything else in the world to think about and contend with except anything about class of '88, for the past year. What with fool railroad legislation, and trust suits, and dissolution suits to harass us, there is very little encouragement for one to attempt to do things.

These are certainly strenuous times for our railroad classmates of '88 and we have a number of them.

1889.

WALTER H. KILHAM, *Sec.*, 9 Park Street, Boston, Mass.

The following is the first of a proposed series of "Little Journeys to Homes of Great Men of '89." This particular journey was made by Whipple to Piqua, Ohio, where A. W. French is located. Whipple has sent the following memorandum:

"A month or two ago I had the pleasure of spending a couple of days in Piqua, Ohio, at the home of Alfred W. French. The visit was made in connection with some work that our firm is doing for the Water Board of Piqua.

"French is one of the leading men of the town. He lives in a fine house on one of the main streets. He was married in 1899 to Miss Grace Gertrude Albers of Los Angeles. He has two children and it is a very happy household.

"French has done exceedingly well and '89 men ought to be interested in his work.

"After being graduated from Course I he remained at the Institute two years as an assistant instructor. The next two years were spent in the office of Edward A. Buss, civil engineer of Boston. Then for three years he was civil engineer with the U. S. Government at Fort Riley, Kan., and Jefferson Barracks, Mo. In 1896 he entered the employ of the National Linseed Oil Company and served as superintendent and general superintendent for two years. This led to the position of superintendent of the Atlantic Works of the National Lead Company in Brooklyn, N. Y. It was his work during these four years that paved the way for what followed. The following story is told in French's own words:

In 1900 the French Oil Machinery Company of which I am president was incorporated and started in a very small way with very little capital at Piqua, Ohio. The first two years were a struggle for existence and the only reason that the company did not die during this time was that we could not raise the cash for a first-class funeral. Since that time, however, prosperity has accompanied our efforts.

The growth of the business has been very rapid and the present plant covers about three and one-half acres.

The machinery we manufacture is mainly for the extraction of oil from oil-bearing seeds such as linseed, cotton seed, etc. The success of the business has been due to the many patented machines which the company controls. (These inventions were all made by French.) The company today owns thirty U. S. patents on various machines and an equal number of foreign patents, and we not only receive a revenue from the sale of machines in this and foreign countries, but also from royalties on machines manufactured abroad under contracts with our company. The business is steadily increasing, so that we receive orders from far distant parts of the world. This last year we have shipped a number of carloads of machinery to Turkestan, Russia. The automatic cake parers and change valves will be found as standard in nearly all countries where vegetable oils are produced.

The latest departure of the French Oil Mill Machinery Company is the erection and equipment of a complete oil mill at Piqua, adjoining their plant, to be used in the manufacture of the oils from various seeds for experimental and demonstration purposes. This mill will be in operation in early spring.

The company proposes further to develop its foreign business, and with the opening of the Panama Canal to exploit its machinery in China, Japan and the Far Eastern countries.

The success of the business has been due largely to the departure from the fixed standards followed by other companies, and branching out at right angles in the invention, development and bringing to complete success machines better adapted to the industry than those supplied by other manufacturers. The success in this work has been responsible for the prosperity and growth of the company.

It was a great pleasure to see French in his office at the head of the great establishment which has grown up around him. The success of his efforts may be summed up in a single sentence. After showing me the big pile of patents in his safe, he said, "I would rather invent machinery than do anything else in this world." It is very evident that French is in his element and his success is bound to increase as time goes on. He is one of the many men of whom the Institute should be proud.

The *Boston Herald* of January 9 in speaking of the educational merger between Tech and Harvard exhibited the pictures of four Harvard scientists who were especially concerned in it. It was interesting to note that three of these were Tech men and two of them were '89.

The following were present at the alumni dinner, January 10:—Hobbs, Hart, Loring, Kilham, Lewis, Sauveur, Smythe, Whiting, Williston, White, Laws.

The following is from F. A. Smythe, the class booster for the Chicago reunion:—

"We had a bully good time, enjoyed the occasion to the limit and have a very clear recollection of what happened so that any lack of knowledge which may appear in this communication is not to be improperly understood.

"Wuichet came on from Dayton, attending the first alumni gathering since leaving Tech. He promises never to miss another if it can be avoided.

"Sturges Bates was there from old Kentucky. Bridges, Gannett, Windett and Merrill were in evidence. Particularly Merrill, who

acted as host to a large delegation visiting the engineering laboratories. Pillsbury was registered but kept himself secreted to such an extent that no other member of '89 was able to locate him during the entire two days.

"Adding to the above names Whiting and the writer, we had, numerically at least, a very creditable representation. Modesty forbids any statements as to its quality."

The *Advocate of Peace* for March 1914 has the following:—

In January Mr. Charles E. Beals resigned his position as director of the Central-West Department of the American Peace Society, at the same time giving up the secretaryship of the Chicago Peace Society. His resignation was accepted with deep regret by the executive committee, to take effect on May 1. Mr. Beals first became officially connected with the American Peace Society in March, 1908, when he was made field secretary, remaining for a time at the Boston office, then removing his headquarters to Chicago. Recently the title of field secretary was merged in that of director of the Central-West Department.

It has been a source of great disappointment to us that Mr. Beals could not see his way to continue longer in this very important field of work, but the health of his family seemed to demand a change. He has performed most faithful, efficient, and devoted service for the cause of peace during the six years of his connection with the society. He is an unusually strong and effective speaker, and has interpreted the peace movement in a most able manner in the large field of the Middle West. The Second National Peace Congress and the Chicago Peace Society are among the enduring testimonials to the permanent character of his work. This congress was organized by him in 1909 on the initiative of the American Peace Society, with the coöperation of Mr. Royal L. Melendy and others, and was one of the most influential of our national congresses, interesting a large body of prominent men and women in the cause. As a direct result of the enthusiasm aroused by the Congress, Mr. Beals was able to establish the Chicago Peace Society on a firm basis as a branch of the American Peace Society, with a membership of some six hundred persons.

In his work of organization and propaganda he has accomplished much. The Nebraska, Missouri, and Wisconsin State branches owe their foundation to his inspiration and assistance, while he had prepared the way for State societies in Indiana, Iowa and Illinois, which only await formal organization. Mr. Beals has traveled widely throughout the country, delivering many hundreds of lectures, and by his stimulating and magnetic personality has made the peace movement a live issue wherever he has gone. At congresses and conferences he is a well-known and influential figure. His heart is in the peace cause, and, although his official connection with it will soon be severed, he will continue by pen and voice to aid in the furtherance of this great reform for the abolition war.

The secretary has received news of the death of Miss Caroline A. Woodman in Lewiston, Maine, on June 15, 1912.

Frederick Elwell Woodbury

Frederick Elwell Woodbury, general manager of the iron, coke, gas and turpentine interests of Ferdinand Schlesinger of Milwaukee, was struck on the head by a skip in the Newport mine shaft at Ironwood, Mich., January 21 and was instantly killed. He was examining the shaft for repairs when the accident occurred.

Mr. Woodbury was president of the Woodbury Refining Company and of the Milwaukee Coke & Gas Company. He was fifty-five years of age. Before coming to the Gogebic range, Mr. Woodbury spent many years in the Michigan copper district.

He was employed as a chemist for the Calumet & Hecla Mining Company, with which corporaton his father was also connected, the elder Woodbury later going to Sudbury, Ont., where he served as superintendent for the Canadian Copper Company.

He married a daughter of the late John Duncan of Calumet. A brother-in-law, Will Duncan, lives at Laurium. Mr. Woodbury's home was in Milwaukee.

Mr. Holman I. Pearl, '12, communicates the following:

"Mr. Woodbury was a *splendid* man—beloved by all who ever had the good fortune to work under him—and one who stood at the fore of his profession. He had charge of all the extensive Schlesinger interests, which include in addition to the Newport Mine (the deepest iron mine in the world as well as one of the richest), the Anvil Mine on the Gogebic Range, where has been encountered within the past year an extensive ore body second only to the Newport in richness and size. His death means a serious loss not only to the vast interests which he managed, but to this whole Lake Superior mining community as well.

Though not a graduate, he took an active interest in alumni affairs; he was present at the all-Tech reunion in 1909."

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

At the first anniversary gathering of the Engineers Club of Boston, on January 24, Atwood and Gilmore were among the members present.—Hayden was as usual re-elected director of the Shawmut National Bank of Boston.—A bill was introduced at the Massachusetts Legislature this year by W. Z. Ripley to investigate industrial disputes by special boards.—In December, W. Z. Ripley left for a vacation in Hampton, Va., but before he had time for a single round at golf, he was taken down with an attack of pneumonia and was confined to his bed for several days. We are glad to report, however, that Billy has now entirely recovered although he missed his winter's golf.—The death has just been reported of William Hague at Tidioute, Pa., in March, 1910. —W. I. Finch is at 1526 Hawthorne Ter., Berkeley, Cal.—H. N. Slater is now at the Dupont de Nemours Powder Company, Wilmington, Del.—G. N. Calkins was in Boston during Christmas week. He evidently tried to keep himself quiet, but as we ran into him near Park street where he was diligently pulling on his pipe, we managed to secure his person and a few of us had lunch together at the Exchange Club.—Any time any members of the class expect to be in Boston, if they will kindly notify their secretary in advance, he will be more than pleased to meet them and arrange for a gathering of a few of the fellows.—C. W. Rice was a guest of honor at the banquet of the Rensselaer Polytechnic Institute at the Biltmore in New York in February. As one of

the representatives of the engineering profession, Rice is a member of the executive committee and chairman of the sub-committee on emblems, insignia, etc., of the Centenary Peace Celebration to take place throughout America next year. In this connection he was in Washington recently where he met the President and every member of the Cabinet, and was a guest at the luncheon given by the Secretary of State.—Fred Dodge was in New York in January to attend the auto show, and we had the pleasure of meeting him for a short time. Dodge is president of the Ohio Electric Company, and if any members of the class are looking up the question of an electric auto, they had better see Fred before deciding on anything else. Your secretary has already fallen for one, and presume that several others will after seeing the car at the automobile show in Boston in March.—The Yale & Towne Mfg. Company have moved their offices from Murray street to 9 East 40th street, and any time any members of the class are in New York they will find Jack Towne at his office.—At the International Philaletic Exposition held in New York at the Engineers Society Building, J. H. Towne received a medal for his exhibition of unused Twentieth Century stamps, and G. L. Gilmore received a medal for his exhibition of U. S. postage stamps, and another one for his U. S. revenue stamps.

We regret that more members of the class were unable to be present at the Technology alumni reunion held in Chicago in February. The interests of the class were in charge of A. W. Woodman, and Burley, Flint, Peyton, Flood, Goss, Kern, and Sturges were the others present.

Friday morning was spent at the Blackstone Hotel renewing acquaintances. Lunch was held at the Union League Club with the class of '91 and the class of '92. Those present were guests of Goss, '90, Snider, '91, and Lukes, '92. The afternoon was divided between visits to the Underwriters Laboratories, and the Fiske Street Power Station. On Friday evening all attended the departmental dinner at the University Club, which was an exceedingly jolly affair with a plentiful supply of beer. Saturday was spent in a visit to the U. S. Steel Corporation Mills at Gary. Saturday evening closed with the grand climax of the banquet, which was one of the best ever attended.

1892.

W. A. Johnston, *Sec.*, Mass. Inst. of Tech., Boston, Mass.
C. H. Chase, *Asst. Sec.*, Tufts College, Mass.

It is with regret that your secretary has to announce the death in December, 1913, of William L. Adams, a former member of the Mechanical Engineering Course. At the time of his death Mr. Adams was the Western representative of the Aberfoyle

Manufacturing Company of Chester, Pa., with headquarters at 746 Insurance Exchange, Chicago, Ill. He was widely known in that section among the textile trade, as he had formerly been the representative in that territory for several years for the Hampton Company of East Hampton, Mass., before going with the Aberfoyle Manufacturing Company about a year ago. He was regarded as one of the leading yarn men in that section and was the head of a local organization of cotton yarn men in the West. Mr. Adams is survived by a widow.

The following men were present at the Chicago meeting of the Technology Clubs Associated: Burrage, Cody, Lukes, Kales, McCaw and Skinner. They report having had a pleasant reunion and glad that they were there. W. R. Kales of the Whitehead & Kales Iron Works of Detroit, Mich., reports that his company is engaged in building a fine new power plant for the Detroit Edison Company; also are doing a large amount of steel work for the New York State Barge Canal.

The following clipping explains itself:

The board of directors of the Philadelphia, Baltimore and Washington Railroad Company at a meeting today approved the appointment of Elisha Lee as general superintendent, effective April 1, to succeed E. F. Brooks, who will retire under the pension rules of the company.

Mr. Lee is at present assistant to the general manager of the Pennsylvania Railroad lines east of Pittsburgh and Erie. He was born in Chicago, Ill., September 24, 1870, and was graduated from the Massachusetts Institute of Technology in 1892.

Mr. Lee entered the service of the Pennsylvania in November, 1892, as a rodman, and from that time his advancement was rapid. During the last year and a half he has been chairman of the conference committee of managers of the Eastern railroads. In that capacity he had personal charge of the railroads' case in the recent arbitration of wage demands.

The secretary has received the following announcements or changes of address:

Murray Warner, 2590 Green Ave., San Francisco, Cal.—Henry A. Ladd, 165 Broadway, New York City.—Charles S. Davis, 201 Devonshire St., Boston, Mass.—Ross F. Tucker, Amity and Main Sts., Flushing, N. Y.—Walter B. Trowbridge, 1396 Park Lane, Pelham Manor, N. Y.—E. G. Manahan, 10 North Eighth Ave., Mt. Vernon, N. Y.—Herbert S. Potter, electrical engineer and contractor, announces his removal to more commodious quarters at 238–240 State St., Boston. Mass.—Ingraham and Hopkins, architects, 2A Park St., announce that the partnership has been dissolved by mutual consent March 1, 1914.—George Hunt Ingraham also announces that he will continue the practice of architecture as formerly at 2A Park St.—Charles F. Park has recently served as advisory engineer for the city of Cambridge in the purchase of motor fire apparatus.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston, Mass.
FREDERIC H. KEYES, *Asst. Sec.*, care of Mechlin & Stone, Milliken Bldg., Washington, D. C.

George E. Merrill is connected with the George A. Fuller Company, Builders, at 111 Broadway, New York City. He has been engaged in building contracting work or building construction for the past 20 years. From 1898 to 1902 he was building superintendent in the employ of the U. S. Government at the Naval Academy, Annapolis, Md. In 1902 he was made superintendent of construction in charge of the rebuilding of the U. S. Naval Academy, and later he entered the employ of the Noel Construction Company representing it in the rebuilding operations at the Naval Academy, costing $8,000,000. Later he became vice-president of that company and in 1908 removed to North Chicago to take charge for his company of the building of the U. S. Naval Training Station, costing $2,000,000. Merrill is married and has three children living.—Richard E. Meserve is in practice as a hydraulic engineer at 535 Main street, Grand Junction, Colo. Meserve has been variously engaged in heating and ventilating engineering, structural architectural work, agriculture and stock raising, and lately in irrigation engineering and water power development. He married in 1901 Miss L. Eudora Price, and they have one son and one daughter.—George L. Mirick is assistant to the chief engineer of the United Fruit Company, at Puerto Barrios, Guatemala, Central America, his home address being 87 Central St., Stoneham, Mass. For four years after leaving the institute Mirick was engaged in engineering and surveying work, and for eleven years was a contractor for Public Works. For the United Fruit Company he is engineer in charge of the construction in reinforced concrete of the wharf, hotel, roundhouse and other work, at Puerto Barrios, Guatemala, Central America. Mirick was married in the fall of 1892 and has a family of five children.—Arthur M. Moody is associated with the Wetmore-Savage Company (electrical supplies) at 76 Pearl St., Boston. He reports:—

> The problem which has engaged my entire attention has been to keep the wolf from the door. No amusements, no recreation. Since leaving Tech I have traveled approximately 480,000 miles, namely, 12,000 rides of 40 miles each, between Newburyport and Boston.

Moody married Miss Elisabeth Johnson Gray in 1903, and has always lived in Newburyport, his home being at 8 Toppan's Lane. Their family consists of two sons. Notwithstanding that he reports no recreations, Moody acknowledges that he is a member of several varieties of yacht club.—Mrs. Edna Wadsworth Moody who, as Miss Edna Wadsworth, was a student in chemistry with '93, was married in 1895 to Herbert R. Moody, Tech '92, now a

professor at Columbia College, New York. Their home address is 330 Convent Ave., New York City. Mrs. Moody writes:

I used my Institute training for several years by assisting Professor Moody in his laboratory, and by spending the past year in helping him write a book, "A College Text-Book on Quantitative Analysis." I have lectured on "Woman Suffrage" as a suffra*gist*, not a suffra*gette*.

—Harley W. Morrill is general superintendent of the Ludlow Manufacturing Associates, of Ludlow, Mass. Morrill left the Institute in the spring of 1892 to take a position in the Engineering Department of the Pennsylvania Railroad, and after a year there he went to Concord, N. H., where he held a position in the city engineer's office. From the fall of 1894 to 1901 he was employed in the Maintenance of Way Department of the New York, New Haven & Hartford Railroad, and in the latter year became mill superintendent of the Ludlow Manufacturing Associates. He had been general superintendent of that concern since January, 1912. He married in 1895 Miss Lillian Sargent, and they have one daughter. He is a member of the American Society of Mechanical Engineers. —Charles F. Morse has been located until recently at Wallkill, Ulster County, New York, as assistant engineer with the Board of Water Supply of the City of New York, in charge of the construction of five miles of the Catskill Aqueduct. Prior to his joining the staff of the board of water supply, in 1909, he was for fifteen years employed as assistant engineer in the engineering Department of the Metropolitan Park Commission of Massachusetts. He married in 1896 Miss Florence H. Heald, and they have one son. Morse is a member of the American Society of Civil Engineers, the Boston Society of Civil Engineers, the Municipal Engineers of New York City, and the Wallkill Tennis Club.—Henry A. Morss is vice-president of the Simplex Wire & Cable Company, and vice-president of The Morss & Whyte Company, at 201 Devonshire St., Boston. He reports:—

Have been connected with the Simplex Wire & Cable Company since the Monday following graduation, doing engineering work in connection with the manufacture and installation of insulated wires and cables, but principal work is in connection with their manufacture. Have always lived in Boston. I took summer trips to Europe in 1894 and 1898 and an eight-months' trip around the world in 1909. My chief recreation is yachting in which I have been interested many years. Was vice-commodore of the Corinthian Yacht Club of Marblehead in 1905 and commodore in 1906–'07 and '08. Have been a member of Eastern Yacht Club Regatta Committee several years, and am chairman this year (1913). Have cruised along the Atlantic coast from New York to Halifax, N. S., in various yachts, and in 1907 and 1908 won races in my class to Bermuda, in my schooner *Dervish*. During my trip around the world I chartered a yacht for two weeks in Japan and had an interesting and instructive cruise of 600 miles in the Inland Sea of Japan.

He married Miss Edith Sherman in 1909, and they have two sons, their home address being 463 Commonwealth Ave., Boston. Morss is the first member of the class to become a term member of the Corporation of the Institute. He is a member of the Ameri-

can Institute of Electrical Engineers, the Technology Clubs of New York and Boston, the Eastern, New York, Boston and Corinthian Yacht Clubs, and the University, Engineers, and Boston City Clubs of Boston. Henry A. Morss, prominent in councils of the Eastern Yacht Club and owner of a caravel that a Columbus might covet, is a pillar in the recently organized United States Power Squadron. Mr. Morss, really, is a schooner man. His plucky sailorizing in connection with ocean races, notably that to Bermuda, stamps him an A.B. The caravel *Halcyon*, as much of a landmark at Marblehead as Abbott Hall, will shortly be fitted out at the Lawley basin.—Harold Meade Mott-Smith is an artist and resides at 1 Bedford Road, Schenectady, N. Y. In 1896 he married Miss Jennie Ormsby Yates, and they have a family consisting of three sons and a daughter. Mott-Smith writes:—

I went to Paris in the fall of 1893, to study art; returned to this country in 1896 to be married; thence to Paris again to continue studies. I returned in 1898; went to Honolulu, Hawaii, engaged in trust and investment business, made a pot of money; went back to Paris in 1902 to continue art studies, but became interested in a process for drying milk; took up laboratory work to prepare as milk engineer; built and operated a factory in southwestern France, using superheated surface process (Hatmaker-Just). Learning of the Merrill-Soule Spray process in this country I returned, joined that firm, went to England in 1907 in their interests to take charge of the factory of the England subsidiary company. I was recalled to Hawaii, in 1909, by my brother, who is secretary of state for that territory. I severed my connection with the Merrill-Soule Company, also with dry milk, and returned to pursuit of art, in which I am at present engaged. I have had a great time knocking around the world. Have always been an ardent lover of music, played the 'cello, belonged to orchestras in France, England and here. At present I play in the Troy Orchestra and the Albany Symphony. My *chef d' oeuvre* is the production of a son who is a born mathematician and who knows more chemistry at 16 than Tommy Pope ever knew. He will be ready to begin the chemical course with the class of 1918.

—Walter E. Noble is assistant engineer in the City Engineer's Department, Fall River, Mass., his address being City Hall, Fall River. His experience since leaving the Institute has been principally in state and municipal work, both in Massachusetts and in New York, largely in connection with sewer, water supply and subway problems. In 1910 he married Miss Mary F. Gifford. He is an associate member of the American Society of Civil Engineers, a member of the Boston Society of Civil Engineers, and of the Fall River Yacht Club.—Walter H. Norris is bridge engineer of the Maine Central Railroad, his business address being 238 St. John St., Portland, Maine, and his home address 23 Glenwood Ave., Woodfords, Maine. From 1893 until he took his present position, about four years ago, Norris was connected with the bridge department of the Boston & Maine Railroad. He is a member of the American Society of Civil Engineers and the Boston Society of Civil Engineers. In 1897 he married Miss Effie L. Shapleigh, and they have two daughters and two sons.—Charles L. Norton is professor of physics at the Institute, his home address

being Hudson, N. H. He married in 1895 Miss Frances Torrey and their family consists of three sons and two daughters. Since graduating from the Institute Norton has taught physics there, principally heat, and at the same time he has done a great deal of consulting work on heat and fire-proofing problems. A few years ago he invented a fire-proof wood made from short fiber asbestos, and at present is interested in the manufacture of many kinds of articles made from asbestos. For amusements he writes:—

I play tennis a little and drive in a Packard car a great deal.

Norton is a member of the American Society of Mechanical Engineers, the American Society for Testing Materials, the American Society of Refrigeration Engineering, the Society for the Promotion of Engineering Education, the Technology Club, the Engineers Club of Boston, and the City Club of New York.—Charles L. Nutter is treasurer of the Old Colony Foundry Company, at East Bridgewater, Mass.—William B. Page is agent of the Fitchburg and Leominster Mills of the George W. Wheelwright Paper Company, at Fitchburg, Mass., his home address being 124 Summer St., Fitchburg. Since leaving the Institute Page had been continuously in the employ of the George W. Wheelwright Paper Company, working at all of their mills and also at their Boston office, in various capacities. He married in 1902 Miss Mary H. Huse, of Newburyport. Mrs. Page died in 1912. He is a director of the Fitchburg Safe Deposit & Trust Company, and is a member of the Technology Club of Boston, Fay Club of Fitchburg, Leominster Club, Monoosnock Country Club, Oldtown Country Club and the Loyal Legion.—Dalton Parmly married in 1912 Miss Lillian E. Briggs, and resides at Oceanic, N. J. For several years after leaving the Institute he was engaged in the iron and steel business as chemist, at different blast furnaces, including a position with the Illinois Steel Company at South Chicago, Ill. He returned to Oceanic to look after his father's interests up to the time of the latter's death. At present he is engaged in stock brokerage business in New York City, and his hobby is farming on a 250-acre farm, running a dairy which supplies milk to the local creamery.—Walter W. Patch is project engineer, U. S. Reclamation Service, at Klamath Falls, Oregon. He states:—

I spent eleven years on hydraulic construction work for water supply of the cities of Boston and New York, and nine years on the design and construction of irrigation works, such as dams, canals, etc., for the U. S. Reclamation Service. I have also been engaged in the management of operation of Federal irrigation projects.

He married in 1900 Miss Alice W. Walker, and they have two daughters. He is a member of the American Society of Civil Engineers, and the New England Water Works Association, and has been a frequent contributor of technical articles to engineering periodicals.—William W. Peabody is division engineer of the Board

of water supply of New York City, his business address being Realty Bldg., White Plains, N. Y. From 1891 to 1895 Peabody was employed in the city engineer's office at Newton, Mass., and the following year in the city engineer's office in Brockton. In 1896–97, he was resident engineer for the Massachusetts Highway Commission in charge of macadam road construction, at Tyngsboro, Mass., and later was engineer inspector with the Metropolitan Water Board of Boston on the construction of the Wachusett Aqueduct. From 1898 to 1903 he was with the proprietors of the Locks and Canals, at Lowell, Mass., and for a year was principal assistant engineer to the commission on additional water supply for New York City, in charge of the division office on Long Island. In 1904 he was assistant engineer with the New York State engineer, in charge of state road construction, and then became assistant engineer in the bureau, Borough of Queens, New York City. He entered the employ of the board of water supply of New York in 1906, in charge of office of the Southern Aqueduct Department. From 1909 to date he has been a division engineer, for a short time in charge of the White Plains Division, but for the past three years in charge of the Executive Division, as senior division engineer in the Southern Aqueduct Department. He is a member of the American Society of Civil Engineers, and of the Municipal Engineers of New York City. He married in 1895 Miss Lily A. Brown. They have one son and one daughter.—Walter T. Peck is engineer for Zaldo & Martinez, agents in Cuba for the General Electric Company, his business address being P. O. Box 769, Habana, Calle O'Reilly 26–28, his home address being 148 H St., Vedado, Habana, Cuba. He married in 1902 Miss Elisabeth Chester Backus, and they have two children, Peck says:—

> I have been engaged principally in engineering and selling electrical machinery with its accompanying power materials since '95, by which time I had put in about three years at the Lynn and Schenectady works of the General Electric Company. I have spent some three or four years in Mexico, five or six in South America (Chile and Peru), and three years in Cuba; the extra five years being spent part at the Schenectady works, and the balance in the southern part of the United States. I used to play tennis but golf is about all I ever manage now, when I get time. I am a member of the Country Club and American Club of Havana.

—Frank F. Phinney is president and treasurer of the Warren Steam Pump Company, of Warren, Mass. He married in 1904 Miss Mary E. Wells. He served for fifteen years in the First Corps of Cadets, Boston, retiring in 1905 from the position of treasurer and paymaster. He is a member of the Puritan and Exchange Clubs of Boston, the Tatnuck Country Club of Worcester, Technology Club of New York, and the Sigma Chi Fraternity.—Edward A. Porter is engaged in farming, his address being R. F. D. No. 2, Hubbard, Oregon. Besides studying at the Institute Porter was for a time a student at the University of Minnesota.

The following item regarding William R. Copeland appeared in a recent issue of the Milwaukee (Wis.) *Sentinel:*

At a meeting of the sewerage commission held Tuesday afternoon William R. Copeland of New York was appointed to the position of chief chemist and bacteriologist. The salary was fixed at $300 per month.

Mr. Copeland graduated at Harvard in 1892 and since that time has held numerous responsible positions throughout cities of the East. At present he is chief chemist and bacteriologist for the metropolitan sewer commission of New York. After his graduation from Harvard he was connected with the Department of Biology and Chemistry at the Massachusetts Institute of Technology, one of the leading institutions of the kind in the country. He was also with the Massachusetts State Board of Health at Lawrence, where he was afforded an opportunity to deal with sewerage and water questions a great deal.

From 1897 to 1900 Mr. Copeland was chief bacteriologist and chemist of the water department of Pittsburgh and was also in touch with the sewerage plants. From 1900 to 1904 he was bacteriologist and the last two years was superintendent of the experimental water purification laboratories at Philadelphia. The following year he served as bacteriologist at the sewerage testing station at Columbus, O. There every known device for the testing of sewerage purification was worked out under Mr. Copeland's direction. Thousands of tests of the sewage disposal were made here.

In 1905 he became assistant engineer on the construction of a water filtration plant at Pittsburgh. He remained here some time and later became chemist in charge of the water softening and mechanical filtration plant at Columbus. At the same time he was employed as consulting chemist on the sewerage disposal works of the city.

In 1911 Mr. Copeland accepted the position which he is holding at present in New York.

S. C. Keith, Jr., has been making an extended investigation on "Factors Influencing the Survival of Bacteria at Temperatures in the Vicinity of the Freezing Point of Water," the results of which were published in a recent number of *Science*. It appears that while bacteria in water are largely destroyed when the water changes to ice, "frozen food materials, on the other hand, such as ice cream, milk and egg substance favor the existence of bacteria at low temperatures, not because they are foods, but apparently because they furnish physical conditions somehow productive of the bacteria. It seems likely that water-bearing food material as well as sugar solutions, glycerin solutions, etc., freeze in such a way that most of the bacteria present are extruded from the water crystals with other non-aqueous matters (including air) and lie in or among these matters without being crushed or otherwise injured; while in more purely watery suspensions, and, above all, in water itself in which the whole mass becomes solidly crystalline, they have no similar refuge but are, perhaps, caught and ultimately mechanically destroyed between the growing crystals. This theory would explain the absence of live bacteria in clear ice, their comparative abundance in "snow" ice and "bubbly" ice, and also the fact that the more watery food materials when frozen contain the fewest, and the least watery the most, living bacteria."

1894.

S. C. Prescott, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The Chicago reunion appeared to be a great success, although the number of '94 men showing up for a class reunion was somewhat smaller than anticipated and smaller than the letters previously received had led the secretary to believe would be the case. The few who came, however, were amply repaid and the occasion was full of friendly interest. So many good things had been planned by the managers of the all-Technology reunion that there remained little time for special class features, although the class sat together at the banquet and many of us went together on the various excursions. The class is particularly indebted to Clement and J. A. Rogers who acted as a '94 committee and who were most cordial in their welcome to those of us who came from the outlying regions.

The following men were present: Clement, Rogers and Newhouse from Chicago; Bovey from Minneapolis; Sherman from Akron; Parker from the University of Illinois; Hewitt from Peoria; Duckworth and King from New York and Prescott from Boston. Several other men had signified their intention to be present, so that we were counting on an attendance of at least fifteen or twenty, but various causes apparently prevented the attendance even of some of the local men. The account of the whole meeting, given in the March number of the Review, described completely the various events and it suffices to say here that nothing could have been carried out with greater attention to details and with more absolute perfection than the arrangements of this all-Technology reunion. It was hardly to be expected that we should have a large '94 attendance, since we are not particularly strong in the Middle West. Let us all get together, however, for a reunion next year at the opening of the new Technology buildings and have a Twenty-first quite worthy of the class.

Information of an indefinite character has reached the secretary that Ike Hazelton, whom all will remember as a member of our famous freshman football and baseball teams, has recently received a prize of some sort for excellence in his architectural work in a big competition in New York. Forsaking civil engineering for architecture and then slipping into painting and design, Hazelton has commanded a very high reputation in his chosen field and all members of the class will rejoice in this recent evidence of the appreciation in which he is held.

One of the most interesting architectural developments in recent years is the projected capital city of the Commonwealth of Australia known as Canberra. When the Commonwealth of Australia was formed in 1900, it was decided to build an entirely new capital rather than to utilize any of the existing cities of the Commonwealth for this purpose. Consequently a competition was held in which designs for the whole city with the necessary capital build-

ings were called for. Our class has a very vital interest in this competition since it was won by Walter Burley Griffin of Chicago, whose wife, Marion Mahony, was a graduate in the class of '94. A note received a few weeks ago from Mrs. Griffin told the secretary of the great interest which she had taken in the competition and rather brought out the fact that many of the drawings and much of the rendering was done by her and there is no doubt that her influence was also felt in the general plan of the design. We may therefore rightfully feel much interest and pride, first that the competition has resulted in the selection of an American architect and second that the Institute and the class of '94 have been instrumental in bringing these plans to a successful issue. Mr. and Mrs. Griffin have now gone to Australia for two years or more, where they will superintend the laying out and construction of this new capital city. The *Architectural Record* for November, 1912, contains an article upon the subject dealing with the whole general plan and giving various pictures, maps and designs. The magnitude of the problem and the way in which the whole question has been treated are of interest not merely to architects, but to all those who have given any thought to city planning and the development of the different interests which are involved in the modern city.

1896

CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.
J. ARNOLD ROCKWELL, *Asst. Sec.*, 24 Garden Street, Cambridge, Mass.

The Tech reunion is now past, and although few '96 men from the East were able to be present, the reunion gave an opportunity to the fellows in the Middle West to get together. The whole class was canvassed, the country being divided off into sections and a booster assigned to each section as follows:—Locke for New England and Canada; Ben. Hurd for New York City and adjoining states; Jos. Clary for the Southeastern States; H. K. Jones for Pittsburgh and vicinity; P. W. Litchfield for Ohio; Wayne for Indiana and contiguous territory; Laws for Rocky Mountains; Stratton for the Northwest; Hyde for the Pacific Coast; Sturm for Chicago and adjacent states, at the same time acting as representative for '96 in making arrangements.

The following gathered at headquarters Friday morning: Con Young, Gordon, Winthrop Coolidge, Sumner, F. Haskell Smith, Wells, Rawson and Wayne. This crowd together with Frazier gathered to enjoy Sturm's hospitality at a buffet lunch at his office. This was a jolly affair, Sturm having arranged a table of ample capacity, equipment and stock in one of his office rooms. It was remarkable to see what could be produced from different directions, including a private stock on the fire escape. There was a good opportunity to reminisce a bit, and the spirit of the

meeting was best expressed by the following poem by Bob Flood, who, by the way, was unable to be present and did not come along until later:

I got your order to report by the 21st,
At a meeting of all Tech men,
And to bring along my thirst.

I know how it is "gol darn ye,"
If a man says he's got to fail;
You at once draw the conclusion
That he's pining away in jail.

So I'll manage to show up somehow,
If I have to borrow the kale;
Don't draw my beer till I get there,
So I won't have to drink it stale.

Don't seat me near any highbrows,
It's the '96 "gang" for mine;
I want to eat, drink and be merry,
And have a rip-roaring old time.

The time passed so quickly that those who were to take the regular excursions in the afternoon were late for reaching the rendezvous. However, through Sturm's good offices, a special auto was arranged for to call at the building. It is needless to say that this auto was well filled by Wayne and four or five others.

The trip to the Underwriters' laboratory was most interesting, but unfortunately it served for a chance for the departure of the special machine with a result that from there on they were saddled upon other parties. All those who went out to the laboratory also went to the Edison Power House.

'96 had a good turnout at the departmental dinner on Friday night, but of course the arrangements meant that the men were scattered. The trip to Gary Saturday morning was also well attended. Stickney who arrived Friday evening was of the party on this trip. At the banquet the class was also well represented, but on account of the table assignment, the men were at three different places in the room.

Flood and Smetters both appeared at the banquet. Everybody reported a good time, and there was plenty of the Tech spirit rampant, just as there is at every Tech reunion.

Joe Knight has been elected a member of the Executive Committee of the alumni to hold office for two years.

The following '96 men were present at the annual alumni dinner at the Hotel Somerset, January 10, 1914 —Cramer, for the first time since 1896; Dorrance who is now located in Boston, and who also made his first appearance since 18 years. Rutherford who reported that he had been traveling; Joe Hewitt from Brockton, Conant who appeared fat and healthy, Bert Thompson from Lowell, Melluish who happened to be in Boston on his way to Florida in connection with the reclamation of 45,000 acres up a 45-mile canal in the Peace River District east of Tampa; Hayward,

Joe Driscoll, Joe Knight, C. W. Tucker, who reported that he would like to take a trip to Europe, but cannot seem to make up his mind to go; Bakenhus who is now located at the Charlestown Navy Yard, and who has been trying to connect with an alumni dinner for some time, but has either been chased away himself, or has had the misfortune to have the annual dinner transferred to New York as was the case of last year. Including the secretary, the number was thirteen, which, however, did not seem to dampen the gathering.

Many replies were received by the secretary and class boosters from the circulars sent out regarding the Chicago reunion and best wishes were sent by the absentees and regrets expressed that for various reasons they could not be present. The following items have been culled from this correspondence:—

"Joe" Clary, Washington, D. C., wrote as follows:—

Leighton is out of the survey now. He is a consulting engineer in the MacLachlan Building, this city.

Have had a couple of pleasant evenings with Connie Young in the past six months. He has had occasion to be in the city. Also Al. (Skipper) Downes blew in a few months ago.

Frederic H. Walker has removed his office from Washington to New York City. He is still with the Royal Typewriter Company.—(Rev.) Guy L. Morrill, First Presbyterian Church, Canandaigua, N. Y., writes:—

It seems as if my change of vocation put me far apart from the members of old '96. It is only very occasionally that I hear anything of any of them since I left Boston.

James M. Driscoll and George E. Harkness have been appointed examiners of civil engineers by the Massachusetts Civil Service Commission.—James A. Dupee, Dorchester, Mass., has been laid up with nervous prostration, and it looks like several months yet before he will get back to a normal condition.—E. H. Laws, Salida, Colo., writes:—

We have ordered another sintering machine and a Wedge furnace for our roasting department, and are getting ready to install them in the smelter. December was a hard month with 33 inches of snow in the first four days, and it was extremely cold all the rest of the month. We got a thawing plant in commission on December 20, and it is a mighty good thing.

Hope to be with the boys at the big Boston reunion in 1915.

I. S. Merrell, Syracuse, N. Y., wrote:—

I have planned a trip to California and hope to be basking in the sunshine while the rest of you are walking up against the Chicago winds on February 20 and 21. So, although I do miss the reunion, I shall have some other compensation.

Mrs. Helen Chamberlain Dodd, Twinflower Farm, East Corinth, Vt., wrote:—

No, I can't go to Chicago, much as I'd like to. The duties of a farm mother leave no time nor funds for the college affiliations.

However, I'm not a dead letter, nor buried in home life. I've followed with

great interest all the work of university extension, rural betterment, and the investigations and efforts at organization by state and federal workers for farmers.

During the past year, I have been secretary of the Orange County Farmers' Association which has taken advantage of the government offer to assist in maintaining and supervising a county agent or agricultural adviser, and we hope will set in motion much coöperative work.

Our delightful acquaintance with the Burlington college and station staff and the state foresters show what is possible among college graduates, even if some are Yale and Cornell men instead of Tech.

No doubt there are other Tech graduates in Vermont who would enjoy the fellowship of the workers in some of our new organizations.

F. R. Peabody, Acushnet Process Company, Rubber, New Bedford, Mass., writes:—

With regard to items of news of the class, I believe there are two members of '96 in New Bedford, Mr. David L. Beaman and myself.

I can merely say that I am officially connected with the Acushnet Process Company, as you will note by my letterhead, and we have been trying to do a few stunts in the rubber business here in New Bedford for the past three years. We are just completing quite an extensive addition to our factory, and hope to be heard from, in a small way at least, in the trade. We are doing a little pioneering work along certain lines of crude rubber, and we think we are going to be able to develop a few new wrinkles in the rubber business.

Two of my associates are also Tech men, Weeks and Young, being graduates of the class of '09.

"Joe" Harrington, 924 Consumers Building, Chicago, wrote as follows:—

Last August I retired from the position of secretary and chief engineer of the Green Engineering Company to enter business with a former assistant, Mr. T. A. Peebles, as advisory engineer, in matters pertaining to boiler room economy. Our special work is in the equipment, organization and efficiency of the boiler room, with particular reference, of course, to the efficiency of the combustion process.

As you may remember, I have had twelve years of work along these lines exclusively, and have had the pleasure of designing some of the largest and most advanced stoker installations in the country.

The field is enormous and we are fortunate in having secured a number of the very best clients possible, which puts us in direct contact with about eighty boiler installations. Among the most interesting of these is the school of instruction for boiler room engineers and operatives, which we are about to start at the Peoria plant of the Illinois Traction System. This system comprises seventeen power plants and has a list of some forty men, who are directly concerned in the operation of the plants. All of these men will come to Peoria for a week's instruction beginning February 1, and I will demonstrate to them the exact influence of the various conditions, which obtain in ordinary operation. After a few weeks of this, we will be able to select the most economical method of operating the test boiler, which system will be then extended to include the entire plant of eight boilers. The students will then apply the improved conditions, as far as possible, in their own plants, and a follow-up system will enable us to bring efficiency of the entire system up to a point where very satisfactory conditions of economy will prevail.

This is the first school of instruction of its kind in any Traction System in the United States, so far as I have been informed, and bids fair to become popular with central station managers, because of the heavy improvements in efficiency that can usually be made.

My new office is at 220 South State street, Chicago, and I shall be more than pleased to welcome any Tech men who may come to town and have a minute to spare.

A. V. Shaw, Durango, Colo., wrote:—

I have been milling around here so long, that I have lost touch with most of the old fellows. I have corresponded a bit with J. Howard Willis, of Course IV. He is doing finely with Bliss & Faville, architects, in San Francisco, and is a model husband and father, with a pretty home in Oakland.

Frederick C. Gilbert, Course V, is also a happily married man of Durango, and given much to pink teas, bridge parties, etc., as a relaxation from his strenuous duties at the local smelter of the A. S. &. R. Company. He was shoved up from superintendent a year or so ago to manager of the entire plant; ostensibly because the place was vacated, but really because they could not do without a Tech man at the helm.

As to my own mediocre history, you ask for a synopsis of my doings for the past seventeen years. A large order, and will be probably tedious, but I'll risk it.

In brief, then: The summer of '96 and that winter, I risked curvature of the spine at the draughting tables of a Boston architect. The next July, I fully intended to enhance my small store of classic detail, etc., by bicycling with Prof. Homer and the rest of the "push," over south England and seductive France. Alas, for my plausible intentions! A chance came to sail into the north with Peary! *Nuff sed!* That winter, I once more yielded the bow-pen, and draughted details, framing-plans, and nifty perspectives of numerous houses then being built out at Forest Hills. But the following spring came a siren to my office, bearing inducements in the way of foreign sands, glittering gold, and alluring adventure. Did I go? Oh, no, hardly, I referred him to my mother who was lonely. That was in February, 1898, when the big rush was on to Alaska's land of promise; and I was a wild-eyed unit in that rush. I missed clipping coupons for the rest of my life by a mere eyelash!

That winter, I recuperated in sunny California, solacing my professional conscience with the idea that I was looking over the architectural field of the Pacific coast. Shade of our lamented Despradelle! Could he have been a witness! It was before the "quake" of course, and of the 125 architects' names in the business directory of San Fran., 75 per cent of the year's million dollars of business had been taken by ten old firms. The remaining 25 per cent was unequally divided between the rest of the battling 115. I "soaked" all my nuggets for meal tickets, then was overjoyed by a position in the Call Building, for an exceedingly modest stipend (attenuated, would be the better word, for it proved that, not to say, rarefied). Here, for a Shylock named Dunn, I was head-draughtsman, office-boy, and private bank. My second week's salary was borrowed by this inhuman Shylock, and my third turned up missing. Still, to keep my hand in, I designed ornate façades for mythical apartment houses, drew up innumerable specifications, and refused further loans. I finally took a train for Boston in April, still dunning Mr. Dunn for that $15. In Boston, I had barely started work for the Library Bureau (where, by the way, F. C. Gilbert was then also taking a salary) when once more I received the "call of the wild." This time, my lenient employers gave me three months off, and I sailed again to Peary's headquarters at Etah, North Greenland. Back again with a talk on the North before a dinner given by the firm, then sent to New York office, with a New Jersey territory. Too dry—far too dry (in atmosphere). Then an old side-kicker who had rolled into the same blankets with me in Alaska wrote asking why I had tied myself to the "blasted towns," incidentally saying that I had better come out where Sunday never appeared, and where there was a job waiting at $100 per. I at once packed my meagre *Lares* and *Penates*, and bought a through ticket to Salida, Colo. One year at the North Star mine in Gunnison county; then a very fascinating pack and saddle trip down the state to Silverton, where my father had a "hole-in-the-ground." I did his yearly assessment work, then again swung into the saddle for a trip all through the San Juan portion of the Continental Divide, a region of snow-capped peaks, stupendous cliffs, and unexcelled fishing and hunting. Near Pagosa, I located a homestead ranch, where for two years my biggest crop was in blacktail deer, mountain lion, and silver-tip grizzly (ten cinnamon and grizzly were trapped in one month on my 160 acres).

Back to Silverton then, to take charge of the organization and eventually the managership of the Auburn C. G. M. Company's property, which place I held down for six years. Since then, I have tried my hand at authorship, with some degree of success, with three novels, "The Fining Pot"; "By Way of Reprisal"; and "A Son of the Frost"; several short stories, travel articles, and nature-poems.

Am at present trying to work a ranch which cuts about $1,800 worth of hay and grain, beside furnishing a cracker-jack living of meat, fruit, and vegetables; with the further prospect of fattening some 150 "beef-critters" in a few years' time.

The above tale of a rolling stone may prove tedious and too long; if it does, blue-pencil it down to size. I wish to add, that while I have practically abandoned architecture, I have found that the sure general instruction given by Course IV, made it comparatively easy for me to take a private course in the profession I should have acquired at M.I.T., that is, mining engineering. With my own case in mind, I want to add a word of caution to all first-year men, or those who have not yet decided upon their life work: Go slow in your choosing, until you *know* what you are best fitted for. Stand off at one side and get a perspective on your tastes and inclinations; don't fly at Course IV, for instance, as I did, just because you have inherited a little artistic appreciation, and possess a facile pencil!

This advice may perhaps take some weight after reading the above, for it is given sincerely by one who has, to some extent, "been through the mill."

John L. Mathews writes from Philadelphia that he attended the Tech dinner in that city and met old friends. He is planning to contribute to the New Tech building a scientific and practical report on the advantage of Diesel motors over steam for the 4000 horse power electric plant.

Mathews' home address is Normandy, Mo.

A post-card received from M. L. Fuller, dated January 3, Shanghai, China, states that it takes four coolies to carry his Sedan chair. Those who saw him at class reunion at Squam Lake in 1911 can readily believe that even with four men the carriers have no easy job.—The secretary and Billy Anderson made a two weeks' trip to northern Nevada early in February to investigate some mining properties. A novel experience was an auto and wagon drive of 150 miles through the mountains, which was not without its difficulties at that time of year. A call was made on Cannon in Salt Lake City, but he was out of town.—Walter Stearns has supplied the following account of the work of Dr. W. D. Coolidge: "Dr. Coolidge has been for a number of years in the Research Laboratory of the General Electric Company in Schenectady, and some of the results he has obtained are truly remarkable.

"Everyone is aware of the great gain in efficiency and economy of the Mazda incandescent lamp, but I think that few of us are aware of the fact that Coolidge is the man who succeeded in making this lamp a satisfactory commercial article. The tungsten metal from which the filament of this lamp is made, previous to the experiment conducted by Coolidge, was in the form of a powder, and it was a very difficult proposition to make the tungsten filaments from this powder. Coolidge perfected a process whereby the tungsten was made ductile and the filaments are now made in the form of drawn wires which have proven very satisfactory.

"If it had not been for Coolidge, the public today would not be

enjoying the reduction in cost of electric light, which has been accomplished by the universal introduction of these Mazda lamps.

"Another wonderful invention, produced by Coolidge, is a powerful Roëntgen ray tube with a pure electron discharge. Briefly, the device consists of a tube exhausted of all gases to the extreme possible limit, in which is supported the cathode so arranged that it may be heated electrically; an electrically conducting cylinder or ring connected to the heated cathode, and so located with reference to it as to focus the cathode rays on the target; and the anti-cathode, or target. The advantages of the tube are complete and immediate control of the intensity and the penetrating power of the Roëntgen rays; continuous operation without charge in the intensity or character of the rays; absence of fluorescence of the glass; and the realization of homogeneous primary Roëntgen rays of any desired penetrating power.

"This later invention is considered by all who have seen it to be one of the greatest inventions made in recent years, and I am sure that every member of the class of '96 should be proud to know that one of its members has succeeded in doing such excellent work."

Coolidge is also busy raising a family and reports the birth of a son, Lawrence David, on December 30, 1913.

Charlie Lawrence has kindly furnished the following notes regarding the New York dinner on January 17, at Plaza Hotel:—

"This dinner was presided over by a '96 man, Benjamin Hurd, now president of the Technology Club of New York, and our good friend, Bradley Stoughton, had charge of the funds. The following men composed the '96 constituency:—

"Armin F. Lindenlaub, Bradley Stoughton, Gaylord C. Hall, Charles E. Lawrence, John A. Rockwell, John Tilley, J. E. Woodwell, Benjamin Hurd.

"The class of '68 was admirably well represented by our much beloved Prof. Richards; and various classes between '68 and '85 had one or more representatives, though some were not represented.

"The first class in order of graduation, to have a conspicuous representation, was the class of '85, which had eight men at the dinner; and this number was not equalled or exceeded until '93 showed nine men.

"The class of '95 sprang a great surprise, when the count showed that they numbered fourteen; and the class of '97 surprised itself by turning out twelve men.

"The class of '98, which took the cup in 1913, had eleven men, while the class of '96 had only nine men, so that '95 and '97 both scored a victory over '96 at this dinner, a fact well worth noting, as they were never able to score a victory over '96 in undergraduate days, in anything from cane rush to football.

"Even the class of '06 turned out thirteen men, so that the

class of '96 was fifth by way of attendance, tying for this position the class of '93.

"The Technology Club of New York offers an excellent opportunity for monthly luncheons, or dinners, to be held by the various classes, at moderate expense, amid most agreeable surroundings; but the class of '96 has done very little in this direction, though it cannot be said that it is lacking in men who are willing to take the initiative, for we need mention no more than Hurd and Stoughton to disclose this fact.

"There are thirty odd '96 men within a small radius of New York's City Hall, and from this number, fifteen should always be counted on to attend any conspicuous gathering."

Whitney has moved and thus made a place for Stickney, as will be seen from the following article taken from Chicago *Bell Telephone News*, for February:—

L. N. Whitney has resigned his position as general manager for the Central Union Telephone Company in Indiana, and will become general commercial superintendent of the New England Telephone & Telegraph Company with headquarters in Boston, Mass. Mr. Whitney takes up his new duties February 15.

Practically all of Mr. Whitney's life has been spent in telephone work. He was educated in the public schools of Newton, Mass., and at the Massachusetts Institute of Technology, where he was graduated in 1896. He had already developed a liking and aptitude for telephone work, as during the summer vacations from 1891 to 1895 he had worked as general utility man at the Newton and Highlands exchanges. These exchanges are now Newton North and Newton South. His duties consisted in making reports and clearing trouble during the day, and sleeping in the exchange at night, answering such calls as were made. He placed the first granular button installed in Newton, and possibly in New England, as it was in the residence of Jasper N. Keller, then president of the company.

After graduation Mr. Whitney immediately took service with the American Telephone & Telegraph Company in New York, holding successively the positions of inspector, chief inspector, right-of-way agent, assistant chief operator, manager and special agent to the district superintendent. In the fall of 1903 he resigned to become division superintendent of the Central Union Telephone Company for Indiana with headquarters at Indianapolis.

Mr. Whitney's experience in the telephone business has covered practically all branches, including plant, traffic, commercial and executive work. He was one of the prominent early advocates of "Universal Service" and had a large share in the development of the policy toward the independent operators and connecting companies, now generally in effect in Indiana, whereby a subscriber to one system may secure connection with all other lines regardless of ownership.

Mr. Whitney's transfer from the Central group of Bell Telephone Companies will cause genuine regret among his associates in the telephone organization and his legion of friends outside. His popularity is not due to a pleasing personality alone, but to his capacity for hard and intelligent work, his attitude of consideration, encouragement and support of those who serve under him and to his quick and ready grasp of the needs of the public, combined with the desire and ability to satisfy those needs.

Mr. Whitney has won for himself the esteem and affection of all who have come in contact with him, and their good wishes will follow him to his new field.

Joseph W. Stickney has been appointed general manager for Indiana, succeeding Mr. Whitney. Mr. Stickney was promoted from the position of commercial superintendent for Indiana. He has been with the Central Union Telephone for ten years. Before

coming to Indiana he was with the American Telephone & Telegraph Company in New York. His first position with the Central Union was special agent in Indianapolis. Later, he was appointed district superintendent at Anderson, Ind. He became commercial superintendent in 1912.

From the *Engineering News of* January 22, we hear that Harold C. Stevens, principal assistant engineer of Johnson & Fuller, consulting engineers and sanitary experts, New York City, has been admitted to membership in the firm. Stevens was formerly assistant designing engineer of the Board of Water Supply, New York City.

E. B. Cunningham died in El Paso, Texas, in April, 1913.

George French, Jr., died June 22, 1913. His death was rather sudden and due to heart failure. From report received, George had been away on a fishing trip and came home the evening before, and while going about his house was stricken and died in a very few moments afterwards. He had been a grain merchant and a member of the Merchants Exchange of St. Louis for several years.

The following address changes have been received:—

W. H. Thomas, Jr., Apponang Company, Apponang, R. I.—R. S. Whiting, Architects and Construction Experts Company, Schofield Bldg., Cleveland, Ohio.—Bradley Stoughton, Sec., American Institute of Mining Engineers, 29 West 39th St., New York, N. Y.—D. M. Bates, Agent, Lewiston Bleachery & Dye Works, Lewiston, Maine.—F. F. Schaller, Hall Switch & Signal Company, Garwood, N. J.—Frederic E. Field, Filtration Works, Atwater Ave., Point St. Charles, Montreal, P. Q.—Walter S. Leland, 417 Market St., San Francisco, Cal.—Henry K. Sheridan, Mgr. Willys' Service Corporation, Ltd., 427 West 42d St., New York City.—Miss Elizabeth P. Hamlen, 37 Chestnut St., Boston, Mass.—Andrew H. Green, Roseau Dominica, B. W. I.—Miss Ada M. Fitts, 362 Longwood Ave., Boston, Mass.—Miss Elizabeth W. Bean, 87 Main St., Concord, Mass.—Frederic H. Walker, Royal Typewriter Company, New York, N. Y.—Howard E. Smith, Div. Eng., 901 Press Bldg., Binghamton, N. Y.—John E. Lonngren, 1914 South Figueroa St., Los Angeles, Cal.

1897.

JOHN ARTHUR COLLINS, JR., *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

Harry Draper Hunt of North Attleboro, Mass., died on October 4, 1913, after a serious operation for intestinal trouble. He leaves a wife and three children. After graduating Mr. Hunt followed teaching for a while, but in 1898 he purchased the *Evening Chronicle* and became a full-fledged newspaper man. In addition he took a lively interest in public affairs, serving four years as a mem-

ber of the school board, and three years as representative to the General Court. In 1903 he was appointed postmaster of North Attleboro, which position he held at the time of his death. In 1908 he sold his interests in the *Evening Chronicle* and taking up the study of law was admitted to the bar in 1911. Phenomenal success attended him in this profession. The *Evening Chronicle* has expressed the sentiments of those who knew him thus:

"As an editor, legislator, postmaster and lawyer, he performed his many difficult tasks efficiently and ably. He was a citizen of the very best type. We loved Harry Hunt for his kindly disposition. We esteemed him for his learning, attainments, and character. We respect his memory for its bright example."

Harry Hunt will be remembered as class day orator who delivered a eulogy on President Walker.

RESOLUTIONS

Resolved, That as death has taken from our midst Harry Draper Hunt, we, his classmates of the Class of Ninety-Seven of the Massachusetts Institute of Technology, desire to submit the following expressions of our profound sorrow:

Graduating from Technology after having completed his chosen course with high standing, he was elected to represent the class as its orator at the Class Day exercises.

His entry into the public life of North Attleboro, his home city, was marked from the start by a keen devotion to high ideals which were infused into his various activities. As proprietor of the *Evening Chronicle*, a member of the school board, and later a member of the Massachusetts Legislature for three years, followed by his appointment as postmaster, which position he held until his death; he was also a member of many branches of Masonry, Odd Fellows, Mirimichi Tribe of Red Men, Elks, as well as a vestryman in the Grace Episcopal Church. He commanded the respect of all who knew him.

His admission to the bar, while engaged in other pursuits, followed by the establishment of a large legal practice, was indicative of his brilliant mind.

We, his former classmates, are proud of his accomplishments, and esteem him for his lovable qualities, his high attainments and for his character, the memory of which will be our priceless heritage.

Resolved, That these resolutions be spread upon the Class Records and that a copy be sent to the bereaved wife, and to the children, Jarvis, Cynthia, and Harry, to whom, in their great sorrow, our sincere sympathy is respectfully offered.

C. W. Bradlee, *Chairman*,
Proctor L. Dougherty.
H. E. Worcester.
H. F. Sawtelle.
Charles B. Breed.
Executive Committee.

John A. Collins, Jr.,
Class Secretary.
February 27, 1914.

Robert Anderson, VI, of Cincinnati died on October 28, 1913, after an illness of three years. Further details we do not have. Surely Ninety-Seven was unfortunate in the year just past, losing four of her most brilliant and successful men. Resolutions have been adopted in each case, and have been sent to the family.

Mrs. Elizabeth Renwick of Belmont was married to Dr. H. W. Marshall of Boston on January 14, 1914.

At the alumni reunion in New York in January the following

men were present:—Ilsley, Du Pont, McCarthy, Hering, Potter, Hopkins, Worcester, Howes, Field, Joseph Bancroft, Taylor, Hazleton and Binley.

On January 10 at the annual dinner of the Alumni Association the following were present:—Bradlee, Worcester, Dougherty, Moore, Learned, Jackson, Hall, Currier, Marshall, Carty, McElwain, and Humphreys.

On February 13, eleven of the class met at the Technology Club for dinner, and afterward, went over to the Technology Chambers where the evening was spent in bowling. Those present were:—McCormick, Taylor, Jackson, Currier, Fuller, Worcester, Jackson, H. D., Bradlee, Learned, Breed, and Pike.

"Father" Borland writes that his present position is "Manager of Properties," Department of Police, Chicago, Ill. The secretary is not quite certain what this job be, unless that of custodian of false beards, moustaches, dark lanterns, black jacks, etc., that the amateur Sherlock Holmes employ when they go out on the trace of a suspicious character.—Arthur D. Curtis, who is located at the Washington Navy Yard, was on board the Argentine battleship *Rivadavia* during the speed, economy and endurance tests conducted by the Fore River Shipbuilding Company.—One of the five members of the City Planning Board of Boston, which was established in January, is William C. Ewing. He is manager of the C. H. W. Wood Company, a member of the Boston Society of Civil Engineers, the Chamber of Commerce and the City Club. He was elected president of the United Improvement Association in 1910, having been a delegate from the Roxbury Improvement Association for a number of years.

1898.

A. A. BLANCHARD, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Philip Dater has been appointed (February 1, 1914) city engineer of Portland, Oregon, by the new commission government of that city. Here is an extract from a letter of Winslow and shows a little of what he is accomplishing:

I am teaching here at Columbia, running a laboratory at the Natural History Museum, acting as chairman of the New York Ventilating Commission, conducting a big investigation of sanitary conditions in the offices of the Metropolitan Life Insurance Company, taking charge of the publicity work of the New York State Department, preparing to testify in a water case at Auburn, and I have 140 civil service examinations for state sanitary supervisors to read at home.

Delano writes:—

Since sending the dope on myself for class book I have been elected to Finance Committee of town (Vineyard Haven, Mass.) and two weeks ago to School Board. At meeting of board Friday night, I was elected chairman. First time I would agree to run for town office, and Weimer's speech at Wianno reunion really roused me to my duty.

Chapin writes in similar vein:—

I have been elected to the Warrant Committee of the town of Sharon, Mass. The warrant committee considers the articles of the warrant preliminary to the town meetings and makes recommendations to the voters. According to the by-laws of the town this committee can require any and all information needed from any official of the town. As a newcomer in the town my election to one of the most important committees is considerable of a compliment. I already have in mind correspondence with some of the boys whose experience I think will help me and perhaps I may be of equal service to others of the class.

1899.

W. Malcolm Corse, *Sec.*, 106 Morris Ave., Buffalo, N. Y.

The Chicago meeting of the Technology Clubs Associated gave an opportunity for several '99 men to renew old acquaintances. Gillson arranged a '99 luncheon on Friday, February 20, at the University Club, at which about a dozen men were present. Arthur Hamilton entertained the bunch with some Alaska stories which were much appreciated. At least half a dozen more fellows showed up before the meeting was over, so that '99 was well represented.

N. E. Seavey writes the following from Dover, N. H.:

As most of the fellows in this state were not able to go to Chicago last month, the Technology Club of New Hampshire held its winter meeting at the Eagle Hotel, Concord, on Friday evening, February 19. There were about thirty fellows present and it was a very enthusiastic gathering. Following the banquet Prof. Russell of M. I. T. gave a talk on the rules and regulations of the coöperation between Tech and Harvard, to which both schools have agreed. Following this a telegram was sent to President Maclaurin at Chicago, endorsing the plan which unites Tech and Harvard, and congratulating him on his having brought it about. The other speakers of the evening were President Arnott of the New Hampshire alumni, Prof. Lewis, M. I. T., and Mr. John Ritchie, Jr., of M. I. T. During the evening it was voted to hold next year's banquet with Harvard and a committee of three was appointed to take up the matter with Harvard and to see if such a plan could be carried through.

The following letter received from Frederic Tappan in Vancouver, B. C., was much appreciated by the secretary. Let others follow the good example:

I have not replied before as I have felt that in all probability my work would not be of sufficient general interest to say anything about.

For over three years now I have had charge of the power statistics of the British Columbia Electric Railway Co., Ltd., and its subsidiary companies on the mainland of British Columbia. These consist of three city railway systems and four interurban railways. The city of Vancouver has a complete and widespread city and suburban railway system, and the cities of New Westminster and North Vancouver have smaller local systems. Three distinct interurban railways connect the cities of Vancouver and New Westminster, with a branch from one of them extending to Steveston at the mouth of the Fraser River; and the fourth interurban railway extends from New Westminster up the valley of the Fraser River about sixty-four miles to Chilliwack.

These companies have two hydro-electric generating stations of their own, and also purchase power from the hydro-electric generating station of another company; and in addition have a steam plant in Vancouver.

They give a light and power service throughout the territory traversed by the railways, and through certain other territories where there are no railways, having a total of twenty-three sub-stations now in service.

As you may imagine from the foregoing, my time is very fully occupied.

I do not know whether you have ever been on this part of "the Coast." It is a remarkable combination of mountains, forests, rivers, and lakes, with the ocean, and deep arms of the ocean which extend far inland.

Just at this time of the year one of the most popular sports is cougar hunting, for the cougars are driven down out of the mountains and woods by the deep snow, and ramble around the outskirts of the towns absorbing dogs, chickens, and other small animals.

The result of the ballot on the time of our fifteenth reunion was as follows: Ballots cast, 70; in favor of June, 1914, 8; in favor of October, 1915, 52; no preference, 10. The result of the ballot therefore indicates that the reunion will be postponed to such a time as will coincide approximately with the all-Technology reunion which is now planned to take place in the spring of 1915.

FINANCIAL REPORT

January 1, 1912, to January 1, 1913.

RECEIPTS.

Cash on hand January 1, 1912,	$281.28
Dues,	104.15
Interest,	8.55
	$393.98

DISBURSEMENTS.

Expenses class luncheon, New York meeting Tech Clubs Associated,	$10.00
Office supplies,	25.90
Postage,	13.92
Exchange,	1.29
Cash on hand January 1, 1913,	342.87
	$393.98

Signed, W. M. CORSE,
Secretary.

1900.

WILLIAM R. HURD, 2d. RICHARD WASTCOAT.
PERCY R. ZIEGLER.
INGERSOLL BOWDITCH, *Sec.*, 111 Devonshire Street, Boston, Mass.

The secretary of the "famous class of 1900" wishes to congratulate the "subordinate" on his great success in getting news for the last class letter and forgives him for all the remarks, truthful or otherwise, mostly otherwise, which he made about him. The

class is hereby notified that the secretary will do his best to get news, but cannot guarantee to produce every time such an exceptionally good letter unless the "subordinate" will agree to take charge of this branch of the work.

Since the last letter a great loss to the class has occurred in the taking away of Robert M. Hopkins who died at Geneseo, N. Y., on Sunday, January 11. When it was known that Hopkins was so ill the secretary wrote him a letter extending to him the sympathy of the class. This letter reached him before he died and the secretary received a very appreciative letter from his father, wishing him to thank the class for its sympathy. The following is taken from an obituary which appeared in the *Livingston Democrat*:—

The death of Robert Milne Hopkins occurred at the residence of his parents, Otto M. and Mary Goheen Hopkins, on Sunday, January 11, about two o'clock in the afternoon. He was brought to Geneseo in June last from a New York hospital afflicted with the rare disease, pemphigus, which confined him to his bed from the outset and baffled the treatment of eminent medical experts, the devoted and unwearying care of his family physician, Dr. Lauderdale, the most skillful of nursing, one of the nurses, Miss Webber, of the city of Rochester, having had charge of the case from the start, and the tender ministrations of family and friends. Stricken in the midst of important professional achievements, a splendid type of physical manhood, a man of blameless life, a Christian gentleman, trusted and beloved by all who knew him, Mr. Hopkins bore the suffering which was his constant portion and the trying ordeal of the sick room with perfect fortitude and unceasing hopefulness until, still looking forward to recovery he fell asleep. He has resided in San Francisco, Chicago, New York and latterly in Pittsburgh, as sales manager of the Alberger Pump & Condenser Company of New York City. He was a member of various clubs and societies among others, the Sons of the American Revolution, Boston Chapter; the Technology Club of New York, the Pittsburgh Athletic Association, the Illinois Athletic Club of Chicago, the Society of Engineers of Western Pennsylvania, the American Institute of Electrical Engineers and others. He had been engaged in several important and interesting works of a scientific nature, among them the longest distance electric power transmission plant in the world, located in California, and the recent installation of the great pumps in the new government dry docks at Honolulu, Puget Sound and the Brooklyn Navy Yard.

On January 10 Charles, Jennings, Leach, Batcheller, Fitch, Reardon, Allen and Bowditch attended the alumni dinner at the Somerset. They comfortably filled a table and were very much interested in the speeches concerning the agreement with Harvard to join in the conducting of the four most important courses. In order to see the benefit of this agreement it must be looked at, not from the selfish point of view of a Tech man or a Harvard man, but from the point of view of the public who are to benefit by it. The more this is talked of and thought of, the more both Tech and Harvard men ought to be proud of President Maclaurin for putting through such a splendid scheme.

On January 19 the class held an informal dinner at the Technology Club and the following members were present:—Burns, Bowditch, Ziegler, Briggs, Russell, Emery, Richardson, Reardon, Burnham, Walworth, Ashley, Remington.

After dinner Russell gave a most interesting illustrated talk on the Tech Summer School at East Machias. The pictures gave a very clear idea of the camp and surrounding country and made some of us wish we could do the work all over again. It was a great pity that more of the fellows could not be present because they missed a great chance to hear of a very important branch of the work Tech is doing, told in a most instructive way. After the talk the fellows asked Russell many questions and went away with the feeling that the evening was well spent.

Jim Batcheller has dropped in to see the secretary a couple of times and it was mighty nice to see him, especially as he made a most welcome and unexpected contribution to the class fund. It is hoped others will do the same. Jim has been doing some special work for the last six months and is taking the opportunity of being with his family while writing his report. He is now doing some private work in the Tech mining laboratory and may go West in April.—Chalmers dropped in the other day having a few minutes to spare before taking the train for home. He hasn't changed very much in the last ten years, and seemed to be prosperous.—Just after Christmas, Bowditch met Jewett in a small shoe shop and did not at first recognize him because he could not believe that a New York man would be buying shoes in Boston. Jewett and his wife had come on for Christmas and he was ordering his yearly supply from the same place he used to patronize while at Tech.—Bowditch also met John Brown who was just getting ready to return to his work in San Domingo, where a not unusual revolution had compelled him to take an enforced vacation. The inhabitants had been sufficiently reduced by fighting so that John thought it was safe to return and take up his work.—A picture of C. A. Richardson's baby appeared in the *Boston Herald* on Sunday, March 15.—At the last election of the Alumni Association, Bowditch was elected class member of the Council—Neall reports that Brownell, who considers himself 1901, although he took most of his work with 1900, called on him while on a visit to Boston. He is superintendent of safety of the Industrial Accident Commission of the State of California with offices in San Francisco.—Seaver was asked to do what he could to get the 1900 men in Pittsburgh and nearby places to go to Chicago for the Tech reunion. As he is spending most of his time traveling, he was unable to be of much assistance. Next year, when the reunion is held in Pittsburgh, Seaver will probably have charge of all class matters.—Ralph Hamlin wrote from Minneapolis that he was unable to go to Chicago as he had just returned from a month's vacation and found too much work waiting for him. He has left the Corrugated Bar Company and is chief engineer for Pike & Cook Company, contractors at 416 South 5th St.—Frank Chase was kind enough to act as special reporter and reception committee for the class at the Tech reunion in Chicago, and offered his office as headquarters.

It is certain that the members who attended the reunion were well taken care of. Leonard was also active in looking after their needs.

Chase contributed the following:

"The class of 1900 had a good representation at the Technology reunion. This was the cause of mutual enjoyment, congratulation and surprise, as some of the men will recall that the class was not in the habit of deserving any large bouquets in the Institute days on the ground of any concerted action in any activity. The following men were present: C. J. Bacon, L. L. Cayvan, Dean Hinman, Bill Hough, L. S. Keith, Tom Perry, Leonard Wesson, F. D. Ingles, L. E. Smith, Harry Grant, and the writer. Others of the class sent their regrets, and were kept away on account of illness or absence from the city, so we can figure on 100 per cent interest, if not 100 per cent attendance.

"The members of the class got together at the University Club about 6 o'clock on Friday, and had a pow-wow which lasted until dinner was served, somewhere between 7.30 and 10.30. At this time it developed that Bill Hough had taken the pledge, and Ingles is an expert in hot air—heating, that Wesson is the assistant to President Hagar of the University Portland Cement Company, that Grant is the greatest toastmaster that ever lived—but we couldn't get him to prove it. All of the boys seem to be prospering in their various daily stunts, and we are all getting fat and bald, that seems to be the general indications.

"The dinner was finally served in the Banquet Hall of the University Club, and we all separated to sit with the various courses as it was a course dinner, and not a class dinner. There was nothing "coarse" about it at that, for we all had a bully good time.

"The next day, Saturday, we met again to take in various excursions, most of the boys going to Garry to inspect the steel plant. Wesson was anxious that we should all get off at Buffington and see how the cement which is being used in the new Tech buildings is manufactured. There were quite a number who decided to go until it was found that the baggage car ahead which was filled with the "eats" would not be cut off at Buffington. The trip was then called off.

"The reunion was a success from every standpoint and has given an impetus to Tech interest here in Chicago. A great many of the men promised themselves that they would visit the next reunion which is to be held in Pittsburgh. I sincerely hope that we can get a larger representation of the class of 1900 out to the next reunion.

"The Chicago men can now be located in the directory which you are all supplied with, and we will all be glad to see our friends when they are in Chicago."

Tom Perry sent Ziegler a picture postal of the banquet hall and gave a list of those present. Let every one plan now to be in Pittsburgh next year.

The following address changes have been reported:—Thomas D. Perry, 326 Richard Terrace, Grand Rapids, Mich.—Allen H. Rogers, 177 Buckminister Road, Brookline, Mass.—Leo M. Schlegelmilch, 12 Clarkwood St., Mattapan, Mass.—Warren C. Tudbury, Plymouth Hotel, Los Angeles, Cal.

1901.

ROBERT L. WILLIAMS, *Sec.*, 8 Lake Street, Brighton, Mass.

Concerning the Technology reunion in Chicago the following interesting letter has been received by the secretary from P. W. Moore of Chicago:

You will probably be interested in knowing what the members of our class did during the recent Technology reunion here. The following men attended the luncheon on Friday:—C. J. Bacon, F. D. Chase, W. W. DeBerard, G. E. Gustafson, W. G. Kelley, W. A. Martin, G. E. Marsh, P. W. Moore, Langdon Pearse, W. F. Puckey, and F. D. Rash.

The luncheon was held at the Hotel La Salle and a most pleasant hour and a half was spent. In the afternoon Harry Grant of our class conducted an excursion through the Western Electric plant which I attended. It was most interesting and we were all sorry that further time was not available.

Saturday evening was the next event in which the class as a whole participated. This was the banquet, which was the most elaborate and well-conducted affair in connection with the Institute that I ever attended. We were seated by classes and 1901 certainly did its share, especially Bacon, who, I think, had been saving up for this event for years. He was a whole class by himself.

I had a very pleasant letter from Brush, explaining why he could not be present and had he been present I think we would have carried off the cup for attendance by main force if not by numbers.

We were greatly pleased to have Rash show up from Kentucky where he is running a coal mining enterprise. I certainly hope that he will arrange to attend later meetings of this association as we shall find it difficult to get along without him.

Mr. and Mrs. Philip A. Potter announce the arrival of Philip A. Potter, Jr., at 50 Orange St., Brooklyn, N. Y., the eighth day of February, 1914, weight 7 lbs.

A clipping from the *Boston Post* of recent date states:—

At a meeting of the directors of the Terrible Dunderberg Mining & Powder Company, A. J. Eveland was appointed consulting engineer and managing director. Development of the mine is now being carried on, on the 14th level and the company's engineer expects to commence stoping within the next 20 days from a good body of ore now being opened up.

—J. C. Woodsome is manager of the Tampa Electric Company, of Tampa, Fla., which has a street railway and an electric light plant.

A vote of thanks from the class is due the men who worked as our class boosters for the Chicago reunion, especially P. W. Moore who was our chairman in Chicago.

A most enjoyable evening was spent by the following members of our class at the annual dinner of the Alumni Association at

Hotel Somerset, Boston, January 10: E. F. Brigham, M. C. Brush, N. N. Dow, G. A. Hall, J. F. Monaghan, J. T. Scully, E. Seaver, Jr., R. H. Stearns, F. B. Walker and R. L. Williams.

E. H. Davis, whom we remember as the class poet, is registrar and associate professor of economics at Purdue University, La Fayette, Ind.

Do not forget to fill out the "Data for 1914 Class News" sheets which you have just received; also remember the class dues as our treasury is getting low.

The following recent address changes have been received: C. E. Martin, 89 Prospect St., West Newton, Mass.—S. F. Rosnosky, 1208 Blue Hill Ave., Dorchester, Mass.—F. W. Claflin, 437 Park Ave., Johnstown, Pa.—C. H. Harris, Mississippi River Power Company, Keokuk, Iowa.—A. W. Peters, 231 Oneida St., Utica, N. Y.—E. Seaver, Jr., 77 Franklin St., Boston, Mass.—L. P. Wood, Municipal Bldg., New York, N. Y.

1902.

F. H. Hunter, *Sec.*, 281 Park Street, West Roxbury, Mass.
J. Albert Robinson, *Asst. Sec.*, care Underwriters' Bureau of New England, 141 Milk Street, Boston, Mass.

A dinner of the class was held on the evening of January 29 at the Hotel Thorndike, Boston, this being the first gathering of the class since last June. The dinner was interspersed with music and songs, including a duet on 'cello and violin by Stillings and "Robbie." There were also vocal efforts of a quartette whose names we will not make public. Jasper Whiting, '89, the president of the Alumni Association, was the guest of the class and spoke informally about the work of the association and the Council and paid a warm tribute to the spirit of coöperation that Dr. Maclaurin has developed at the Institute.

Mr. Alvah F. Hunter, the father of the class secretary, gave a talk about his experiences in the Navy during the Civil War, when he spent a year as a wardroom boy on the monitor *Nahant*. He described the crude arrangements of this early ironclad as compared to the modern battleship and told of the routine life and fighting arrangements on the ship, describing various attacks on the forts off Charleston, S. C., in which his ship took part, and the capture of the rebel ram *Atlanta*. The talk was illustrated,—at times,—with lantern slides. Thanks to the work of Moore and Brown these were clearly shown before the evening was over.

The following classmates were present: James H.—"Doggie" Brown, Arthur Hall, Stillings, Adrian Sawyer, Irving Williams, Charles Boardman, Moore, Robinson, Hunter, O'Neill, Rob. Whitney, Jimmy Smith, Ames, Hamblet, Murray Walker, Burton and Joe Philbrick, and Pendergast. For Williams, Brown, Smith

and Burton Philbrick it was the first class affair for several years. During the dinner a familiar face was sighted at the door and Montgomery Huff was identified. Huff left Tech during our junior year, and through some oversight his name never got onto the class roll. He chanced to be in the hotel and heard of the dinner and looked in, it was with difficulty that he escaped after shaking hands around the table. His name was at once added to the roll and he promises to attend frequently in the future.

At the alumni banquet at the Hotel Somerset on January 10, there were present, for '02, Pendergast, Walker, Upham, Robinson, Hunter, Moore, Hamblet, Joe Philbrick, and Archie Gardner. Archie, who had come on from New York to take in the banquet, was quite justified in the pungent comments he made on the loyalty shown by the classmates living much nearer Boston, who were not present, especially his namesake Steve.

The recent convention at Chicago seems to have been a glorious affair to judge from fragmentary reports that the class secretary has been able to obtain, but nobody present seems to have brought away a clear recollection of all the *cock*—no, excuse us—*de*tails of the gathering. The following '02 men registered, Rob. Brown, More, Fitzgerald, Fruit, Paul Hansen, T. G. Miller, Marvin, Leathers, Lockett, and F. O. Miller. Fred Poole attended the smoker, but not the other affairs, while Pete Currey had the tough luck to be ill and therefore unable to attend any of the functions.

Work on the class book is progressing well and much of it will be printed soon after this issue of the REVIEW gets through the presses. The recent canvas for address changes has brought to light a number of moves, all of which will be duly reported in the book, only a part of them are given here.—Chalifoux is treasurer and general manager of the Kirkpatrick Sand & Cement Company, of Birmingham, Ala. This concern handles the entire output of the Alabama & Gulf Portland Cement Company of Ragland, Ala., amounting to a third of a million barrels per year, and ships 75 to 100 cars of sand and gravel daily from its pits, in addition to doing a general business in building materials. We shall expect to find Paul almost willowy in figure when next we see him.—Another classmate in the hustling city of Birmingham is Arthur Sawyer, who has established himself as a mining engineer there, with offices in the American Trust Building.—Les. Millar is another classmate who has made a long jump. He is with the Barco Brass & Joint Company, 230 No. Jefferson St., Chicago. While the Windy City is Les' headquarters, he is traveling a great deal to various parts of the country.—Curtiss is in the power and mining engineering department of the General Electric Company at Schenectady.—Driscoll is with the Hodgman Rubber Company at Tuckahoe, N. Y.—Frank Eager is with the Mond Nickle Company, Ltd., at Coniston, Ontario.—Fitzgerald is manager

of the legal department of the Railway Supply Company, 203 South Dearborn St., Chicago, Ill.—Foote is treasurer of the Marble & Shattuck Chair Company of Cleveland, Ohio.—Friend has joined Capen at Omaha, with the Nebraska Telephone Company.—Galaher has returned from White Salmon, Wash., and is again in the Boston office of the Stone & Webster Engineering Corporation.—Archie Gardner is spending the winter at his home in Babylon, L. I., waiting till somebody finds a dam hard enough to require a man of his caliber to tackle.—Grant is wrestling with the flood problem at Dayton, Ohio, a job that his experience with the Pittsburgh Flood Commission makes him specially qualified to handle. His address is City National Bank Building, Dayton.—Lewis is with the F. W. Bird & Son Paper Mills at East Walpole, Mass. His mail address, however, remains as Box 393, Foxboro, Mass.—Manley is assistant section engineer on the Queensboro Extension of the Elevated Railroad, for the Public Service Commission of New York. His residence is 263 West 71st St., New York City.—Irving Williams is located in Providence with the Brown & Sharpe Mfg. Company, his address being 488 Lloyd Ave.—Chauncey Manning is located with L. F. Fales, designer of special machinery, Walpole, Mass.—Marvin is with the Diehl Mfg. Company in Chicago, his residence address being 1016 Main St., Evanston, Ill.—Prof. Moore has resigned from the Faculty of the Institute to become bridge and signal engineer for the Massachusetts Public Commission. Moore had been doing similar work for the old Railroad Commission, but with the larger powers and duties of the new commission a man was needed who could give all of his time and it was up to Moore to give up the job or his teaching work. Any '02 man can now cross a railway bridge in Massachusetts with a calm mind since Moore is on the job.—John R. Morse is with the Citizens Traction Company of Oil City, Pa.—Nash is manager of the by-products and specialties department of Gunn's Limited, Packers, West Toronto, Canada. His mail address is 28 Algonquin Ave., Toronto.—In the Review for November last we reported that a rumor had reached us of the engagement of Arthur Nelson to Miss Gertrude Elizabeth Lill. Rumor, it seems, in this case was less than the truth for they were married on July 12 last. Mrs. Nelson is a graduate of Kansas State College and was a teacher in the Seattle High School before her marriage to Arthur T.—O'Connell has left the Board of Water Supply for whom he has put in several years in the Ashokan Reservoir work, and is now a member of the firm of Daniel O'Connell's Sons, general contractors, Holyoke, Mass.—Mr. and Mrs. R. B. Pendergast have taken up their abode at 33 Summit Ave., Brookline, Mass. "Pende" is taking some work this year at the Harvard Graduate School of Business Administration, and is handling his business affairs from 79 Milk St., Boston, Room 608.—Burton Philbrick has crossed

the continent and is associated with Prof. S. C. Prescott in the Boston Bio-Chemical Laboratories. His residence is 16 Ocean Ave., Salem, Mass.—Harry Pond is sticking to his job in Mexico City, but sent his wife and children home last fall. He can be addressed in care of his wife, at 20 Girard Ave., Hartford, Conn. This is surer than sending mail direct as events change Mexican addresses all too frequently nowadays.—Charlie Shedd is designing bridges for the B. & M. R. R. and is located at the North Station, Boston, but requests that mail be sent to his residence, 207 Huntington Ave., Boston.—J. L. Taylor is assistant division engineer with the Penn. Lines West at Louisville, Ky.—Trowbridge has left the Navy Department and is mechanical engineer with John S. Emery & Company, Inc., 114 State St., Boston, Mass.—Murray Walker started the New Year by becoming his own boss. He has hung out his sign as a dealer in investment securities at 35 Congress St., Boston.—Dunc. Wemyss is with the Library Bureau at their works at Ilion, N. Y.—L. E. Williams has moved to Detroit, where he is located with E. Jaques and Sons, foot of First St.—Montgomery Huff is with the Eastern Metal & Refining Company, Charlestown, Mass.—Emilio Madero, it seems, is not nearly so dead as was reported in the press soon after his elder brother, the late President of Mexico, was assassinated. Together with his cousin Alberto he got safely across the Rio Grande. They are staying in New York, we hear, but our only address is care of Elliott Knight, Hillcrest Ranch, San Antonio, Texas. They find that the climate in this country is more favorable to longevity at present, than that south of the border.—Walter L. Cook bobbed up at a smoker of the Technology Club of New York, last fall. The next classmate meeting him will kindly abstract his address with a pair of tongs and send it to the secretary, "Charges Collect." Cook tarried in Mexico after leaving Colorado, and mail at his old address does not get to him now.

Felix Mullaly died at his home in Dorchester on December 26, 1913. While poor health had prevented his engaging in active work the past two years, his death will come as a surprise to his classmates. Felix's energy and good cheer will be missed from our gatherings, for these qualities had made him a leader whenever the class was assembled.

1904.

HENRY W. STEVENS, *Sec.*, 39 Boylston Street, Boston, Mass.
AMASA M. HOLCOMBE, *Asst. Sec.*, 510 Pine Street, St. Louis, Mo.

The secretary does not wish to be accredited with furnishing the news for the January issue of the REVIEW as he was not inducted into office until after the columns of the REVIEW were closed for that issue.

The ceremonies attendant upon the aforesaid "induction" into

office of the present incumbent were solemn and impressive to a high degree. On the 8th day of December, 1913, appeared one A. F. Holmes, at the usual place of business of the newly elected secretary, bearing a large black book, which proved to be the records (financial only) of the class of 1904. With a look of mingled relief and fiendish glee, he laid it on the desk, jerked his check-book from his pocket, hastily wrote a check, which he laid on top of the book. He then hastily retreated toward the door, remarking in a sepulchral and lugubrious voice, "I wish you luck."

With this inspiring send-off, the new secretary took up his "job."

The first class news which has come to his attention is contained in the following newspaper clipping, which all class members will read with interest:

The engagement has been announced of Miss Ruth Cole Weatherbee, daughter of Mrs. Elfreda J. Weatherbee, of Wellesley Hills, to Arthur Peabody Porter, son of Rev. and Mrs. Isaac F. Porter, of Sherborn. Miss Weatherbee is a graduate of Miss Wheelock's School, 1906, and Mr. Porter of Technology '04.

The big item of interest for this issue, is, of course, the reunion and convention held in Chicago in February. In order to have '04 make as good showing as possible the secretary requested A. W. Bee, Jr., to act as "'04 booster" for the convention. That "Bee's boosting" was a glorious and unqualified success from our point of view can be seen from the following account of '04 at the convention, written by Bee himself:

The reunion is over and we are sitting down to work again after showing just what Tech can do, and enjoying one of the good times of our lives. The affair certainly was a great success and from the time when I was the fourth to register until Emerson turned into his bunk, *'04 was there.* Possibly you will understand when I give the attendance score: '05, 21; '04, 14; '12, 14; '98, 13. As both '05 and '12 have 50 per cent more names than we in the "Little Red Book" (Chicago Alumni Register), you will see what we accomplished. Everyone was a live one and I heard many favorable comments on our good showing.

As I said, we began early, when I registered, followed closely by Emerson (M.L.). Then came a period of quiet until we assembled for our luncheon at the New Southern Hotel. The following men sat around the table: R. M. Phinney, G. M. Proudfoot, H. T. Rollins, S. T. Worcester, M. L. Emerson, G. P. Palmer, Grant Ford, S. G. Ward, J. B. Finnegan, A. W. Bee, Jr., with W. H. Leathers, '02, whom we found looking lonesome, as his class had no meeting, and prevailed upon to sit with us. After renewing old friendships, and asking after acquaintances, each man in turn told of his doings since leaving the Institute. Six men were married and five were not, one of the latter being our '02 friend. Finnegan, with three children, led the procession. It was discovered that Emerson and I just escaped being twins, by the distance between Braintree and Dorchester, as we both appeared on the scene, on the same day of the same year.

Following the luncheon, excursions were taken to points of interest about the city, one being to the Underwriters Laboratories, where Finnegan is associate engineer.

The evening found everybody assembled in the roof garden of the University Club. Here we had a chance to meet men of all classes, and find many friends, who had not been seen for years. J. F. Card and H. M. Haley showed up and quickly got into the game. Dinner was at last announced, and we filed into the banquet hall, each man receiving a long red cap trimmed with gray. It certainly was great, to look over the hall, and see everywhere the cardinal and gray. Digestion was aided by the singing of songs, both by a quartette and *en masse.*

Following the "eats," the professors from various courses spoke of the work of the Institute, each touching upon some phase peculiar to his department. Short talks were given by the officers of the Alumni Association, and the election of officers held. Finally, Doctor Maclaurin gave a very interesting talk, touching briefly on the "Merger" and the New Tech, illustrating with lantern slides, how the new plant will appear.

Saturday morning a special train took us to Gary, where we were loaded into gondolas, and hauled through the big steel mills. To many, the plant was a revelation in efficiency, especially in regard to the use of labor-saving machinery. The day was cold, but the trip interesting.

The afternoon found the "fussers" at the Blackstone, for the *Thé Dansant*. Here again, '04 was on the job, and made a good showing, our wives and sweethearts helping us out.

The big event was the *banquet*. We were there. In fact, they had to run an overflow table to accommodate us all. Class cheering was the order of the evening, and proved a great sport. The big hit was

'04—"Say?"
'05—"What?"
Chorus—"Maclaurin!!!"

Everybody did full justice to as fine a dinner as was ever served, in a most beautiful dining room. P. M. Smith and C. L. Rodgers, once '04, but later '05, "by request," were present and divided their time between the two classes. Prexy's appearance called for much cheering as did that of President Lowell of Harvard, the Harvard yell being given again and again.

The above are a few ideas on the reunion. Everyone I talked with pronounced the affair a triumph, and something to use as a standard for future affairs. We can't hope for the crowds that collect at Boston, but we can get the enthusiasm and we did.

The following table, compiled from the directory, shows the big classes in Chicago with which we had to contend, so you can judge of our showing:

'00, 18; '01, 14; '02, 14; '03, 15; '04, 12; '05, 19; '06, 14; '07, 13; '08, 18; '12, 19.

We should have had one more present, as Weymouth was coming from Pittsburgh, but at the last moment, his wife's illness prevented.

That we made the showing we did, took the crowd by storm and was in itself a surprise party, as at previous affairs, our class has not been any too well represented. Unfortunately, most of us are so located, that we cannot attend the weekly luncheons, but with the enthusiasm we now have, we ought to turn out for other affairs. And if nothing more than this had been accomplished, the reunion would have been worth while.

The attendance of our class at the Chicago convention was most satisfying, and one of which we should all be proud. The secretary takes this opportunity to thank Bee, and his able assistant, Proudfoot, on behalf of the class, for pushing our part of the convention to such a successful climax. Incidentally this was a part of our five-year reunion, the class having voted to postpone the official reunion till next year in order to have it concur with the all-Technology reunion, at the opening of the new buildings.

The secretary has found a little food for thought from the achievements of the fellows at Chicago, and desires to offer it for digestion, at this time. If the Chicago fellows, with a membership (so to speak) of twelve, can muster fourteen at a reunion, why is it that the Boston crowd, with a membership of seventy-five, can only turn out ten or a dozen men, to any dinner or other event held here in Boston? From the secretary's point of view,

it looks like a case of Western "hustle" and aggressiveness, compared to indifference and lack of interest in the East, and he therefore earnestly requests each man who reads this article, to resolve to attend the next Technology affair which occurs within striking distance.

Your secretary also requests that you all write to him and give him news to put in the REVIEW, in order that we may all be kept in touch with one another.

Parker, Galusha, Comstock, Ferris, Munster, Schumacher, Haley and Stevens attended the annual dinner of the Alumni Association, at the Hotel Somerset, on January 7, 1914.

The following address changes have been received:—L. H. G. Bouscaren, Massena, N. Y.—Sumner E. Brown, 26 School St., Dedham, Mass.—W. H. Conant, 88 E. Congress St., Detroit, Mich.—Frank H. Davis, 304 Baldwin Ave., Detroit, Mich.—C. C. Easterbrooks, 1326 Chemical Bldg., St. Louis, Mo.—Henry C. Field, 310 White Bldg., Seattle, Wash.—Paul M. Paine, The Honolulu Consolidated Oil Co., Taft, Cal.—Robert Palmer, Route 49, Schenectady, N. Y.—Prof. H. K. Richardson, Y. M. C. A., Chengtu Sze, China.—Frank J. Severy, 6011 Hollywood Blvd., Los Angeles, Cal.—Charles H. Stebbins, 31 Malvern St., Melrose, Mass.—R. A. Wentworth, 127 Fort Hill Ave., Lowell, Mass.—F. H. Wilder, Victor, Colo.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

Miss Marie Cusack and John Herbert McManus were married on September 15, at Kingston, N. Y. Their address is 19 Emerson St., Kingston, N. Y., where John is located as engineer with the New York Board of Water Supply.—Miss Margarete Seiffarth and Albert Cornell Dickerman were married January 3, at Dorchester, Mass. They will be at home after February 1, at 2 Providence St., Providence, R. I.—Ros Davis "has the honor to report the arrival on January 6, 1914, of Ernest Dane Davis, Tech 1935."—Sidney L. Cole announces the birth of Robert Winther Cole on January 29, 1914.—Miss Barbara Rhodes was born on March 12, to Mr. and Mrs. George I. Rhodes.—The '05 men were certainly proud of the way the publicity of the Chicago convention was handled by George Jones. His special '05 letter was a classic and entitles him to unanimous election as the poet Laureate of the class of '05. His brief description of our part in the Chicago reunion is as follows:—

"'05 took the awarded cup for the largest attendance. We had twenty-one according to the records and possibly two or three more of whom no record was kept. We beat our nearest competitor by 50 per cent. The crowd was an entirely different one from the '05 crowd attending the New York reunion. As I recall it, I was

the only one who took in both events. This indicates that a Western reunion serves a real purpose, in that it gets together an entirely different crowd of fellows from those who are in a position to attend an Eastern reunion, and who otherwise would not get together at all. I have been out of town practically ever since the reunion and am very busy planning a lengthy trip to Washington."

At a later date at University Club, Washington, D. C., Jones continues:—

. . . Believe I told you I saw Mitchell Mackie in Milwaukee. He is the father of four children but he does not let that interfere with his duty to his country, as Bill Nye would say. Called "Cowper" on the 'phone in Buffalo last night and talked to him and "T" Green who was with him. Bob Morse has just come in for dinner, so will let him finish.

Bob Morse:—

I suppose you wonder if I have been lost, stolen or have strayed. This is just to let you know I am alive. It seems like old times to see George. Best wishes.

—Will Green is taking a post-graduate course at the Institute and is working for a master's degree. He is conducting research experiments in heat.—Phil Hinckley is now located at the Boston office of the S. D. Warren Paper Company.—Elmer W. Wiggins has been located at the Pyramid Works du Pont Power Company, in Woodbury, N. J., as assistant superintendent since last March, —T. M. Gunn writes as follows:—

This card has lain in my files for ten months to be filled out, so here goes. Since leaving my work at Columbia University in the Mechanical Engineering Department. I have been with the Electric Boat Company, Groton, Conn., in charge of the Submarine Designing Department. This work is a continuation and development of that of our dear old classmate Stebbins, XIII, '05. His death was a severe loss to the company and to many friends here. His work remains in the boats built and in the standard developed. At present, five of the six men in the department are M. I. T. men, and it is a great pleasure to be so associated. I might say by the way, that this and the New London Ship & Engine Company, which is on the same grounds, both hold a good opinion of Tech men and we are trying to keep it up.

—E. Gordon Bill is professor in the Department of Mathematics at Dartmouth College.—George A. Quinlan has been incorporated in constructing reinforce concrete bridges throughout Illinois and recently passed the examination for Superintendent of roads in Cook County. His address is 1321 East 53d St., Chicago.—Ralph Emerson gave a talk before the Architectural Society of the Institute on the "Relation of Architecture to Engineering." It was fully reported in the columns of *The Tech*.—R. F. Luce writes as follows:—

For the 1905 class news notes, I will say that I am leaving the Philippines, where I have command of the U. S. Coast and Geodetic Survey Steamer *Romblon* for the last three years, for the States on February 25, 1914,—I am taking a four months' trip through Europe and will continue my work in the same survey upon my arrival in the United States.

—The following clipping from the Cincinnati *Times Star* is of interest to '05 men, as it relates to our classmate, Harry N. Atwood:—

Upon the chances the flyer is willing to take will depend the date of the first crossing of the Atlantic Ocean in an aëroplane, according to the belief of Orville Wright, who is just now figuring with Aviator Harry N. Atwood upon such a flight. Atwood is not going to take forlorn chances, so he is indulging in a great deal of mathematical study. Mr. Wright has said the chances of success attending such an effort were far less visionary than they were only a short time ago. He believes the flight could be made from Newfoundland in twenty-five hours.

The longest aëroplane flight up to the present time has been of about eleven hours' duration. The men are trying to decide which would be the better plan—to equip a machine with a tank large enough to carry fuel for an uninterrupted flight or a boat which would permit the aviator coming to the water to take additional fuel from passing liners. It is felt that a gasoline tank, when filled, would weigh a ton.

"Sooner or later a successful passage will be made," predicts Mr. Wright.

I hope an American will be the first to cross the ocean in aëroplane, yet I would not be surprised if some Frenchman, seated on the very lightest kind of machine with two sticks for a seat and no other weight but a gasoline tank, is successful in making the first trip.

"As for me, I should want a good life boat along," observed Aviator Atwood.

Wright recently announced that his latest invention, the automatic stabilizer was nearing completion. So nearly perfect is this latest device that on December 31 last, the air wizard gave a demonstration before a special committee of the Aëro Club of America, at which time he did not place his hands on the controlling levers."

Our other aviator, Earl Ovington, has incorporated the Vitalait Laboratory and is supplying a large list of subscribers with a pure culture of bacilli for home preparation of real Bulgarian butter milk.—He is building a fine new laboratory in Newton Centre and is backed by prominent Boston bankers.—Another of our classmates, Prof. Selskar Gunn is consulting bacteriologist.—Ovington numbers among his subscribers some of the prominent men in the country, such as: Andrew Carnegie, Alexander Graham Bell and ex-President Pritchett and sends his product as far as the Pacific Coast. He has been dubbed "The Human Fly in the Milk Business."

The following letter from J. P. Barnes, telling of the death of his seven-year-old daughter, Milla, February 26, is the saddest news that the secretary has ever had to include in his class notes:—

The enclosed, clipping tells the pitiful little story of the separation of the "class twins," by the death of our seven-year-old daughter, Milla, on February 26.

I don't know what I can add to the story of her pitiful little fight for life against a particularly virulent form of pneumonia. She was ill only a few days but suffered terribly with pleurisy and kidney complications.

The last year or two, the twins had taken such pride in their distinction as "Class Babies" and had so looked forward to the 1915 reunion that it will be a very lonely little "Class Boy" indeed to attend that function and meet the "Tech Uncles" that they both wanted so to see.

—We not only assure Mr. and Mrs. Jim of the deepest sympathy of every member of the class, but that each of the "Tech Uncles" feels the loss as his own.

1906.

C. F. W. Wetterer, *Sec.*, 147 Milk Street, Boston, Mass.
J. W. Kidder, *Asst. Sec.*, 50 Oliver Street, Boston, Mass.

An important piece of class news for this publication is a report as to the members of 1906 in and about Chicago and the part 1906 took in the Chicago convention. The following letter from C. L. Anson with regard to this matter will be of interest to all:

"A brief summary of '06 representatives around these parts would look something like this.

"Ashmore is working his head off with the Green Engineering Company. He says their stokers are O. K. and he ought to know. —Banash is with the Underwriters Laboratories and is very enthusiastic about the work.—J. R. Clark is getting them to sign on "the dotted line" for the Forbes Lithographing Company, he being their western representative.—Both Greeley and Burke have cast lots with the Sanitary District of Chicago and are finding plenty to do in that line.—Henius is an expert with Wahl-Henius Institute of Fermentology. Oh, you Charlie Wirth.—Hoefer is in Freeport, Ill. trying to kill time as secretary of Hoefer Mfg. Company manufacturers of machine tools. He also is connected with the Speedway Boat Motor Company.—Kahn is in real estate with J. L. Kesner of Chicago.—Fred Lebenbaum, in conjunction with Sam Marx, '07, is finding the profession of architect not so bad.—Place has joined the civil service ranks as efficiency engineer.—Phil Sadtler is vice-president of the Swenson Evaporator Company and is most enthusiastic.—Yours truly has opened up an office as manufacturers' agent combined with mechanical engineering and once in a while succeeds in prying a few sheckels loose from an unsuspecting public.

"But any class news for this issue of the Review must be mixed up with the recent Chicago reunion. Although '06's slogan was 'quality' rather than 'quantity' (no reflection on '05 which took the prize for attendance) there were nine of us on deck with the good old 'We are happy.'

"1906 was one of the few classes that started the ball rolling by getting together Friday noon at a formal (?) class lunch. Gathered around the table were Greeley, Lebenbaum, Henius, Burke, Ashmore, and Anson. The only drawback to the grub was that in Henius' opinion the beer wasn't just—well, perhaps just what it might have been. But as Henius is in the business he had to put up some sort of a bluff.

"Friday afternoon was taken up with various personally conducted tours. Some went through the Underwriters' Laboratories, some inspected the Commonwealth Edison's Fiske Street Station, while others took in the Western Electric or gave Sears-Roebuck the once over. During the jaunts our own Banash distinguished himself and '06 by extinguishing a fire with a fire extinguisher.

You see, Banash being with the Underwriters, had charge of an exhibition showing how a fire extinguisher should (or should not) be used. Of course there were those in the audience (probably '05 men) whose levity prompted them to suggest to Banash that he turn the juice on before the fire gave up the ghost unassisted. However, as Prof. Peabody used to say, 'be that as it may'—

"Friday night an informal 'departmental' banquet and smoker was held at the University Club. The '06 bunch was scattered among the various courses, each course or department having its own table. Doctor Maclaurin showed lantern slides of the new buildings and there were numerous informal speeches.

"Saturday morning, however, was reserved for the main excursion—that to Gary, Ind. A special train (composed of '06 men—and others) took us to Gary where we were given a wonderful idea of the whole steel works. A special train of open cars was used to take us to all the points of interest. A buffet lunch was served on the train coming home and those who were responsible for this trip are to be congratulated upon the scientific management shown in handling the crowd.

"The big eats of the reunion took place Saturday night at the Blackstone and as they say west of Boston 'the tables groaned.' Each class had a table of its own although '06 was kind enough to take a few '05 and '07 men under its protecting wing. Anyone who says that '06 is a quiet bunch did not attend that banquet, that's all. Why, Lebenbaum alone yelled loud enough to crack a bottle of fizz water—or two.

"And yet there was the serious, perhaps sentimental side to this banquet. We refer to President Maclaurin's temporary departure from our midst to be formally welcomed by the Harvard men assembled at the University Club, and our enthusiastic greeting to President Lowell who was our guest of honor the rest of the evening. It certainly did seem strange to mingle the good old M. I. T. and Harvard yells but they make a great combination and '06 was there with the goods in both cases. This ended the Chicago reunion and while '06 was somewhat shy on numbers, the reunion did us a world of good in getting acquainted again.

"I don't know how many '06 men will assemble in Boston next year, but let us hope the number will be large. And let us begin to plan right away to annex that attendance prize."

There are a great many of the class located in Boston and its environs and it has been felt that some method should be adopted whereby the '06 men in and about Boston could keep in closer touch with each other. With this in mind, verbal notices were issued for a luncheon at the City Club on Tuesday, March 10, and twelve of the men responded by being present. They were Batchelder, Benham, R. S. Clarke, Ginsburg, Hyde, Kasson, Kidder, Norton, Santry, Tomlinson, Webber and Wetterer.

Most of the time was occupied by informal discussion of '06 in general and a review of news items which various men had gathered concerning fellow-members of the class. It was reluctantly admitted by those present even though all did not express the same in words that there had been occasions when apparently all that was needed to put '06 in the list of "dead ones" was an obituary. To prevent such a calamity it was resolved that from henceforth signs of activity will be exhibited at an ever-increasing rate until the class had ascended to the level with other "*big sixes*" occupying their respective fields.

The question of holding such luncheons once a month was considered and it was agreed to meet in the same place on Monday, April 6. The secretary is of the opinion that the members of '06 ought to make a success of these luncheons and all the men that can possibly arrange it should plan to be present at the next one. If the April 6th luncheon is a success we will have another on the first Monday in May, which will be May 4th. Get in touch with the secretary or assistant secretary regarding these luncheons.

It is hoped that luncheons similar to the above can be started in some of the other large cities where there are a sufficient number of 1906 men to warrant their getting together. If any member of the class has any suggestions along this line, the secretary would be glad to hear from him.

At the third annual banquet of the engineering department of the Massachusetts Highway Commission, recently held, John E. L. Monaghan of 1906, Course I, spoke on the needs of an equitable standardization of salaries as a means of promoting efficiency in the public service engineering forces throughout Massachusetts. He pointed out that the salaries paid engineers and others working for the state commissions and in the service of cities are so small that there is no incentive for graduate engineers to enter into this line of work, and that similar conditions which existed in New York and Chicago had been improved through the public service employees acting as a body in insisting that a uniform salary scale be put into practice. Monaghan is president of the Massachusetts Public Service Civil Engineers' Association and in response to a request for information with regard to the reasons which led to the formation of this association, and what it has accomplished to date, he has furnished the following, which will be of interest to all members of the class whether they are in the public service or not:

The organization of the civil engineering forces in the public service of the Commonwealth of Massachusetts and the cities and towns therein has become imperative and absolutely essential as a cure for existing evils. Organization is necessary both to establish and maintain a high standard of efficiency in the service and to insure adequate remuneration for the service rendered.

Unlike a private or quasi-public corporation, the state or city does not pay dividends. The earning capacity of the civil engineering force is, therefore, never considered. Appropriations are made by the legislature or by a city council from an

entirely different viewpoint than those made by the directors of a corporation that is in business for profit. In private employment the efficient man must be recognized and rewarded, or the employer is a direct loser; in the public service the efficient man is undoubtedly recognized, but because of lack of system, of sufficient appropriation, personal or political influence or the like, he is rarely properly rewarded.

The man with the so-called "drag" is always ready to glut the service with inefficient men. It is perfectly amazing how quickly the slightest loophole in civil service requirements is discovered by inefficient protégés. The result, of course, is that the standard is lowered and in order to keep the cost of engineering at about a normal figure the efficient and overworked man is not paid the salary to which he is entitled.

It may be asked, why it is that the efficient man remains in the public service. The answer is that he doesn't any longer than he can help. In every case where he has left, he has improved his condition. But it is not so easy to get out as may appear at first thought. A man enters the service of the Commonwealth with high ambitions and with qualifications to succeed and looks forward to advancement. He marries, and soon has a family to support; his responsibilities become fixed; he lives up to his compararively small salary, always looking forward to future advancement. He shortly discovers that he has been "chasing a rainbow," and then it becomes a case of bearing the ills he now has rather than "fly to those he knows not of."

He knows, too, that conditions in the public service should be and must be improved, and at last he has found a way to improve them.

This can be done in Massachusetts as it has been done in New York, Illinois and elsewhere, by organization, and only by organization of the public service civil engineering corps.

Engineering ethics in no way conflict with such organization. Mr. Louis K. Rourke, M. I. T. '95, commissioner of Public Works of the city of Boston, stated at a recent banquet of the Massachusetts Public Service Civil Engineers' Association, that "at last, through organization the time has come when the public service civil engineer is coming into his own." Gov. David I. Walsh of Massachusetts, in addressing the association last year, expressed his surprise that the engineers in the public service had not organized long before, and assured them that if it was ethical for the physician and attorney to organize for the purpose of raising the standard in these professions and increasing the income of their members, it certainly was ethical for the engineer to do likewise. It is evident that engineering ethics should demand that every man in the engineering profession use his influence to assist this movement.

The Massachusetts Public Service Civil Engineers' Association is a development of the Boston Municipal Civil Engineers' Association. In 1911 the Boston Society was formed, and in 1912 invited the men from the state and cities' services throughout Massachusetts to join. Every man in the classified civil engineering service of the state is eligible for membership. The present membership of the association is in excess of 300 and we are receiving many applications at every meeting. It may be confidently predicted that within a year the roster of membership will include every eligible man in Massachusetts.

In the few years of its life the organization has accomplished much. Within six months after its inception it brought about important civil service reforms. Through its efforts and after an extended campaign a standardization of salaries was effected in the Boston civil engineering force, which, though far from equitable, was nevertheless a great step in the right direction. Mr. Rourke, commissioner of public works, was an important factor in the success of this work.

The organization has petitioned the legislature of Massachusetts for the passage of a bill, which is the result of many months of careful study by the most efficient experts in the association. The bill has received the endorsement of the Massachusetts Civil Service Commission and the prospects are that it will be enacted into law before the close of the present session. There is no doubt whatever that the passage of this bill will improve immeasurably the civil engineering service in the Commonwealth of Massachusetts. It insures the employment of competent men

and guarantees these men a proper return for the service rendered. Its passage will change a system where political and personal influence and lack of appreciation of engineering worth has worked havoc with the public service civil engineer and driven him away from Massachusetts, will install a system where merit alone will count, and which will induce the sons of Massachusetts, educated in the engineering profession, to remain in the service of the Commonwealth and her cities, with the guarantee of a square deal.

The space available will not permit the inclusion of a copy of the proposed legislative act mentioned by Monaghan. Various provisions are made therein with regard to appointment to, and advancement within or from, any given grade and the following schedule of standardization would be established if the bill becomes a law:

Rank.	Group.	Salary.	Service Periods.
Grade A.			
(*a*) Rodman	1	$600 00	First year.
	2	750 00	Second year.
	3	900 00	Third and subsequent years.
(*b*) Instrumentman	1	$1,100 00	First year.
	2	1,200 00	Second year.
	3	1,300 00	Third year.
	4	1,400 00	Fourth year.
	5	1,500 00	Fifth and subsequent years.
Grade B.			
Junior Assistant Engineer	1	$1,600 00	First year.
	2	1,700 00	Second year.
	3	1,800 00	Third year.
	4	1,900 00	Fourth and subsequent years.
Grade C.			
Assistant Engineer	–	$2,100 00	Minimum salary.
Grade D.			
(*a*) Junior Draftsman	1	$600 00	First year.
	2	750 00	Second year.
	3	900 00	Third and subsequent years.
(*b*) Senior Draftsman	1	$1,100 00	First year.
	2	1,300 00	Second year.
	3	1,400 00	Third year.
	4	1,500 00	Fourth year.
	5	1,600 00	Fifth year.
	6	1,700 00	Sixth year.
	7	1,800 00	Seventh and subsequent years.
(*c*) Chief Draftsman	–	$2,100 00	Minimum salary.

Word was received in the early part of the year that T. L. Hinckley had been appointed director of the Milwaukee Citizens' Bureau of Municipal Efficiency and, in response to a request for an outline of the work which he is taking up, Hinckley has written the following letter from which it will be seen that 1906 has a man who is engaged in a new and promising field of endeavor:

In reply to yours of the tenth inst., I would say that we have hardly got under way here, so I am not in position to furnish you much startling information as to the work of this bureau. I am, however, very glad to give you information as far as we have gone, as follows:

1. *Organization.* The organization for which I have been chosen director, is really a civic society, and its object is to promote efficient government in Milwaukee. It is composed of the gentlemen whose names you see on the letterhead and about thirty-five others, all of them representing commercial and manufacturing interests in Milwaukee. The organization is funded for three years.

2. *Purpose.* As stated above, the general purpose is to promote efficient government in Milwaukee. Specificially, its work will be to investigate city finances and methods of operation and report thereon by means of bulletins and pamphlets to the citizen body. We shall also aim to assist department heads in their efforts to put the departments on an efficiency basis,—that is to say, myself and any others whom we shall employ, will work directly in the city departments if opportunity appears. We shall take up whatever seems to be needed in the way of outside comment, either favorable or unfavorable, of work undertaken by the city.

It is expected that we will be able to give some time to the county government as well as city government, as it is well known that inefficiency in county government is, as a rule, very great.

In connection with this rough statement of program, it should be understood, that there is, at present, a bureau of research within the city government itself, which is doing splendid work in putting through a number of fundamental reforms, such as a segregated budget, a standardized salary classification and up-to-date accounting methods. It is, of course, our purpose to encourage this bureau as far as possible, and to work in conjunction with it at all times.

3. *General.* In case you should be unfamiliar with work of this kind, I will say that it is an extension to Milwaukee of what has been going on for several years in New York, Philadelphia and Cincinnati, not to mention a number of cities where bureaus of research have operated for a shorter length of time. The basic idea is to straighten out the tangles and remedy the abuse incident to city government, county government or state government, even national government where there is opportunity of this kind. The work is generally done by means of investigating actual conditions, and drawing deductions from these studies, after which comes a conference with the authorities, and a decision relative to making suggested improvements. Of course every city is a special problem,—in one case the efforts of this kind being devoted to fighting graft, and in other cities, Milwaukee included, the problem being one of reorganization and efficient methods of operation.

The work in Milwaukee has not really commenced yet, so I do not wish to boast. Whatever is accomplished, will be gladly sent to the REVIEW. As you doubtless know, work of this kind in other cities has been very fruitful of splendid results,—for example, in New York there can be no question but what the present victory of good government is due largely to the persistent campaign of the Bureau of Municipal Research; in Philadelphia, research work was able to help a reform administration, put the police, fire and other departments on an efficient basis, and to install the financial reforms already put in for New York City. In Cincinnati, the paving work was taken up, and the city was saved immense sums (this work, by the way, was largely due to a Tech man in the service of the Cincinnati Research Bureau).

My last year was spent in Westchester County, New York, where I made a study of the county government, and was able to bring about a number of improvements, so you see that there is a reason for such an organization as I am at present directing.

Thomas G. Webber, who is with Stone & Webster, has recently been made general superintendent of the Blackstone Valley Gas & Electric Company, Pawtucket, R. I. He was transferred to this position from Ponce, Porto Rico, where he was manager of the Ponce Railway & Light Company, which is under Stone & Webster management.—Announcement has been received of the marriage of Miss Blanche Burdin Sears of Maine to Carleton Murray Emerson on February 28, 1914, in New York City. They will make their home at 65 Fort Washington Ave., New York City. Emerson

is sales engineer in the New York office of the Lamson Company.—Fred C. Lebenbaum has written with regard to the Chicago Convention and also gives some interesting information with regard to his work since leaving the Institute, as follows:

The '06 luncheon Friday was very successful, from my viewpoint, for the reason that it put me in touch with men I had not met before.

One cannot comment on Friday night's banquet at the University Club from any but an all-class standpoint, although it was perhaps one of the most successful and enjoyable affairs it has been my good fortune to participate in.

The class of '06 did not send forth its stellar rays until Saturday night, at the greatest banquet of all. Here the classes sat grouped according to their year. It happened that at our table were seated several '07 men, and combined we numbered about eight, but I am sure the banqueters at the other end of the hall thought that at least two dozen '06 men were seated at our table, for the noise we made. Then when our crowd finally pulled the only real *stunt* of the evening, we brought down the house. We borrowed the costumes and instruments of the Italian singers, who were entertaining us between courses, and thus arrayed, we wound our way through the aisles of diners and passed the speakers' table, singing Italian songs, or at least what sounded to us like Italian songs. It was great to see Chicago the center of so much Tech activity, for it makes me proud to have selected this hustling city for my home.

After leaving Tech in '06, I returned to my home city, San Francisco, where I was employed for about three months in the office of Bakewell & Brown, architects. During this period, I also took the four days' examination for the state license to practice architecture, and secured my license. I then left America to spend two and a half years in study and travel in Europe, entering the Ecole des Beaux Arts, at Paris in the Fall of 1907, having passed the entrance examinations in the spring of that year. During my travels abroad, I visited England, France, Germany, Belgium, Spain, Italy, Switzerland, and Greece.

Returning to this country, I looked about, and selected Chicago as the most likely spot for my professional activities. For a year and a half I was connected with Marshall & Fox, and Holabird & Roche, architects. In 1910 I formed a partnership with Sam A. Marx, '07, under the firm of Lebenbaum & Marx, which I am happy to say, has prospered.

On January 17, 1914, Miss Irene O. Taylor, daughter of Mrs. James Taylor of North Cambridge, Massachusetts, was married to Walter D. Davol. Hamilton was best man. Davol is special agent in New Hampshire for the Continental Fire Insurance Company with headquarters in Manchester, N. H.—Word has been received that H. W. Dean who has been with the Telephone Company in Philadelphia since leaving the Institute has been made district traffic inspector with headquarters at Harrisburg, Pennsylvania.—E. R. Hyde, I, is with the Massachusetts Highway Commission. At present he is on a leave of absence to complete a state contract which he succeeded in landing.—George F. Hobson was married on January 19, 1914, to Miss Clara Francis of Lancaster, Mass., and is living at 14 Grafton St., Chevy Chase, Md. Hobson has the following to say about his present work:

At present, I am writing specifications, estimating cost of work, etc., for the Supervising Architect's Office, Washington, D. C. Most of our work is post offices and custom houses. We have about 200 to 250 buildings under construction all the time so are always very busy.

I had the pleasure of seeing quite a bit of Al Hertz a short time ago, when he was in our office for a few days in connection with a post office for Hilo, Hawaii. He seemed well and happy and has become a full-fledged New Yorker.

1907.

BRYANT NICHOLS, *Sec.*, 10 Grand View Road, Chelsea, Mass.
HAROLD S. WONSON, *Asst. Sec.*, 43 Ainsworth Street, Roslindale, Mass.

I. *With '07 at the Chicago Reunion.*

In accordance with the wishes of the Chicago Committee, class "boosters" for '07 were appointed to stir up enthusiasm as follows: New York City and vicinity, John M. McMillin; Washington, D. C., Parker Dodge; extreme Northwestern states, A. G. Labbé; Connecticut, J. C. Bradley; central New York, H. N. Burhans; California, Winsor Soule; Rocky Mountain states, George D. Luther; New England, Alexander Macomber and the secretaries; Chicago, John M. Frank. The following is the letter that John Frank sent out:—

As local booster for the class of 1907 in the forthcoming Chicago reunion, I urge you to be on hand.

It will be the biggest rejuvenation ever, with serious talk for the studious, bright lights for the frivolous, aëroplanes, and tango teas for the ladies.

The speakers will be great—Colonel Goethals, a whole collection of college presidents, led by our "Mac," Emperor William, and Emma Goldman.

Let me hear from you. I shall be glad to give you information or make arrangements.

Remember the dates—February 20 and 21.

The letters written by the others were equally enthusiastic, although not quite so imaginative. In spite of all the work done, the only men who showed up at Chicago were: J. P. Alvey, Jr., Sam Marx, A. N. Rebori, E. H. Reed, F. B. Schmidt, L. C. Whittemore, C. F. Baker, E. B. Snow, H. D. Loring, S. D. Wells, George Bryant and John Frank.

John writes concerning '07 doings as follows:—

"We had a 1907 luncheon at 'Vogelsangs.' Geo. Bryant ordered a 'martini,' oysters, soup, broiled chicken, asparagus, and dessert. Sam asked him if he was just eating a little something light that day. Sid Wells has a big black mustache, seven inches span. He looks just like old Captain Kidd for the world.

"The big noise was the 'tango tea' at the Blackstone. Sam has quite a reputation out here as a dancer and he had with him a girl who ranks next to Mrs. Vernon Castle. Cecil Baker, also, was seen doing the 'fadeaway.' The writer is considerable of a dancer himself but of course we are too modest to talk."

II. *Pertaining to Members of the Class Located Here and There in Different Parts of the World.*

Bob Albro is now employed with Fred T. Ley & Company as an efficiency expert. His address is 96 Garfield St., Springfield, Mass.—J. P. Alvey, Jr., was married on December 20, 1913, to Miss Rose Burns of Chicago. His address is 5615 Kenwood St.,

Chicago. Alvey is assistant superintendent of The Arnold Company, contractors.—John G. Barry's present address is 600 Mesa Ave., El Paso, Texas.—C. F. Baker, 5456 Harper Ave., Chicago. —Jim Barker left the employ of the Edward A. Tucker Company of Boston in March, and is now an instructor in civil engineering at the Institute, succeeding Prof. L. E. Moore in bridge design and third year structures.—Sam Coupal is with the National Wrapping Paper Company, Nashua, N. H.—No member of our class is having more interesting experiences than Kenneth Chipman, who is in the Far North as geologist with the Stefansson expedition. The following is from a letter written to Lawrence Allen:—

September 6, 1913.

Just now is a period of inaction and I am going to get a letter started to you. It won't go for a couple of months or more but I feel that even more than I expected shall I appreciate letters from my friends and consequently I have to write to them at every opportunity. My fountain pen ink is "peluck" (gone) so I have to use pencil.

I regret to tell you that we are stuck in the ice and if we don't get out in the next few days will remain for the winter on the North Coast of Alaska and just a year will be lost in the work I came up to do. It is hard luck, but the season is now so late that I have practically made up my mind to it.

I wrote you when I was on the *Karluk*. We arrived in Nome on July 8—twenty-one days from Victoria and four hours ahead of the passenger steamer with which we hoped to connect and which brought Mr. Stefansson. I spent two very pleasant weeks in Nome, leaving on the 22d. It was found in Nome that the *Karluk* (Northern party ship) and the *Alaska* (Southern party ship) were not enough to carry all the stuff so a third ship, the *Mary Sachs*, a gasolene schooner approximately the size of the *Alaska*, was purchased. Mr. Stefansson asked me to take charge of her from Nome to Herschel Island and here we are—stuck in the ice. There is no mail service here and I don't know where either the *Karluk* or the *Alaska* are, except that the former is somewhere ahead of us and the latter presumably behind us since we were ahead of her at Pt. Barrow. I am the only member of the expedition on the *Mary Sachs*.

This *is* an icy season. We ran into it on August 4, fifty miles from Pt. Barrow and we have been in it ever since. We were held up there eleven days, some days making a few miles and again not moving all day. It was not unpleasant there for the weather wasn't cold and we could amuse ourselves. Incidentally, in my five years with the survey I have experienced various kinds of delay, but to be held up on fine bright cool days with continuous daylight was a new and unpleasant one to me. We were there eleven days before we got our off-shore wind which opened up the tide and let us get past Pt. Barrow. We hoped that our troubles were over and they were—as far as Flaxman Island, where we arrived on the 19th. We were held there a week and then got as far as Camden Bay on the 27th and have been here since. There are five ships east of us somewhere, and as all five were going out this year and hence due at Pt. Barrow not later than September 1, there must be some heavy ice between here and Herschel or they'd have come out.

I wish you could see the heavy ice pack as it is here. We haven't any icebergs here for, of course, they are a land formation and flow from glaciers into the sea, but we have an immense pack pure white and extending as far as one can see. It is composed of all sizes and shapes of pieces shoved together by wind and current until practically solid and shoved up ten to fifteen feet high in places. The big pieces get grounded in from ten to twenty feet of water and it is to these that we usually tie up. At this time of year young ice forms any night the wind doesn't blow and this acts as a cement so that the pack is pretty solid now. I have seen pieces a mile long and half as wide separate themselves from the main body and without warning or noise calmly drift away. It is interesting to watch.

Ice navigation is exciting! From the rigging the best course is picked out and the path of the ship is usually such that a snake's back would be broken in trying to follow it. Often a big cake will be hit and the *Mary Sachs* will carrom off it into another or perhaps we may have to get onto the ice and shove her bow around into the clear water.

October 12.

Collusion Pt. Alaska. As I predicted we were stuck for the winter. The night I wrote you we could see no opportunity to get ahead and as the wind was on shore and bringing the ice in we decided as a matter of prudence to drop back about six or eight miles to Collusion Pt. where we were safer from the incoming ice and where we had a good place to winter if need be. If the ice did open up ahead we could as easily go from here.

Great was my joy on the very next day to see an "oomiak puk" (big boat) coming in and soon we saw it was the *Alaska*, the other ship of the Southern party and the one which carried our friends, provisions and instruments. Not only were we personally glad to see one another, but we were mighty glad to know that both ships were safe. It had only been six weeks since we separated, but then we had expected to meet at Herschel Island in three weeks at the outside, and that we met in six weeks and a year this side of Herschel Island is not according to schedule but is very good for Arctic expeditions.

We talked things over the next day and decided that the best thing we could do was to get ready to winter here. So we all went to work and on the 12th had both boats unloaded and into the bay behind Collusion Pt. We were none too soon for the night following the day we came in, the ocean outside froze solid and had we been there just one day more we would have been badly caught. Such is the pleasant excitement and uncertainty of the Arctic. Inside the lagoon the water was free from drifting ice and consequently a little warmer so that it did not freeze up until the 17th.

From the viewpoint of comfort Collusion Pt. was the very best place we could winter between Flaxman Island and Herschel for here a house was built a couple of years ago and abandoned this spring. All we had to do was to fix it up and make ourselves at home. I wish you could see it. It isn't a palace but it is warm, comfortable and very much better than we expected to have. We are over 200 miles west of the mouth of the MacKenzie but driftwood from there is piled in quantities along the beach and from this the house is built. Logs about eight feet long are stood on end side by side and with a slant inward to form the four walls. The roof is nearly flat. Two layers of sods are put over the whole thing outside a layer of sacking to keep dirt from falling through. Outside of all this a tarpaulin had been hung to break the wind. It seems a good deal but the wind is almost always blowing and against the extreme cold a good deal is needed. It is only 20 x 20 but 13 men are now using it as a home. Great economy of space is necessary.

A round central stove is the heater and is going to be our joy and pride. It is an empty 100-gallon gasolene drum and we can put in three foot sticks, stumps and any old thing. It throws an awful heat, so much so that we have to keep the door open. The bunks for our two cooks are beside their stove with their tables and supplies. We have one shed and as a further protection we have built an outer shed of ice blocks where we can store some stuff and where one brushes off the snow before coming in. We have built a house for our 21 dogs, a caché for our gasolene, another for our flour and a warehouse for our groceries and equipment. I'll be glad when I can show you the pictures of our life here.

I realize that I am new to the country for it seems strange to me to have a temperature of −8° F. on October 12. This is our coldest, for up to the present 8° was the coldest we had had. It snowed heavily on August 17, and from the 19th to the 22d at Flaxman Island we had a team of eleven dogs hitched up every day. That snow went away, but now we have three or four inches and good sledding.

Six of us went hunting starmigan for a couple of days recently and got 83. It was fun to camp out in the snow but pretty cold on the fingers. I wounded a couple of walruses on the way up but we couldn't get them. The *Karluk* got a polar bear but neither we nor the *Alaska* saw any.

Sunday seems to be our day for news for just after the above was written two men came to our house—from a boat which got stuck in the ice and is wintering about 80 miles east of here. Incidentally it is a boat which was chartered for a cruise up here by a bunch of Harvard men and expecting to get out this Fall. They bring us the news of the four boats (aside from us people here) coming into the Arctic this season; that the *Karluk* has not arrived at Herschel Island, and where she is or her fate only time will prove. The *Elvira*, a trader, was caught in the ice and sunk September 23d. The *Belvedere*, a whaler carrying supplies to Herschel Island for the R. N. W. M. P. and for us, is caught in the ice and will winter in here, and the *Polar Bear* (the Harvard men) is also forced to winter here. The man who came is a reporter and photographer from the Seattle P. I. and expects to try to get over the mountains to the Yukon and outside. Adventure isn't dead yet as I have many times realized this summer. Two boats were east of Herschel this year expecting to come out, but they have been held up by the ice and they're all short of grub. Fortunately we have our three years' supply so we can keep the bunch going.

In this country it is impossible to make any prediction as to the future. Personally I came into the expedition to do a certain thing—map the copper-bearing areas if there proves to be any—and I shall make every attempt to do it. I want to get that work done and I want to get out of this country and stay out. This is the biggest stretch of uninhabited coast in the states, and not only that, but it is a heart-breaking country in which to do any work. It is usually cloudy and the wind almost always blows. One doesn't mind the cold of the air but the wind from 1,000 miles of Arctic ice will make itself felt through anything. We have been making a harbor map here and it is no fun. In the cold the oil gets congealed and everything works hard, fog from your breath or even from the hands steams up the lenses and refraction is worse than I have ever seen it. Then, too, it is no fun to handle clamps or tangent screws with cold fingers.

I haven't had any mail since July 1 and except for a couple of letters I have to open Christmas, and one from you for June 1, 1914, I don't expect any until next July. I wonder what will have happened in the world before that!

Writing letters is not as easy here as in a comfortable office or home where one more or less gets into a habit of thinking or talking on paper. Here most of the time I am working with my hands rather than brain and much of the talk we use to dogs and concerning inanimate things is hardly the kind one writes.

I've got to get out in 1916 for I want to come to Boston in 1917. I am starting tomorrow on a trip to the *Belvedere*, perhaps to Herschel Island. Five of us with two dog teams may be away ten days or a month.

—J. A. Davis is now permanently located at the Denver office of the Bureau of Mines.—L. A. Dickinson, who for some time has been a map draftsman with the Automobile Club of America, has become a regular contributor to the Journal published by the club. He runs the department of "Highway Betterment," and is just beginning a series of articles on the various types of roads.—So far as we know, the only member of the class who is a member of the legislature of any state in the Union is Kirk W. Dyer, who in 1913 was elected to the Connecticut House of Representatives, from the town of Cromwell. Dyer lost his first child, a boy, but has a daughter, Esther Lavinia, born September 30, 1911.—Harry E. Fisher, Box B, Ayer, Mass.—P. P. Greenwood's address is Box 1044, Schenectady, N. Y.—Warren Hastings is at Ogdensburg, N. J.—Harry Hall, who is assistant chief of the Bureau of Sanitary Engineering of the state of Maryland, writes as follows:—

Just at this time we are up to our neck in work in this department and are trying to put through legislation this year, which if successful, will increase the amount of work we are handling and for the next month or two it is most necessary to be on the job all the time.

We are engaged in making investigations of water supplies and sewerage systems in the state of Maryland and as the work which we are doing is only recently commenced, a great deal is to be done in cleaning up the state in order to put it on a par with other progressive states of the country where boards of health have had supervision over sanitary works for many years. One of our most recent investigations is a study, which is now nearing completion and upon which a report will soon be made to this year's legislature, of the matter of providing sewerage service for the closely built-up communities in Maryland lying near to the District of Columbia and, if you are at all familiar with this portion of Maryland, you can appreciate to some extent the necessity of sanitary improvements thereabouts.

My address is still Baltimore but the office has been changed from 6 East Franklin St., to 16 West Saratoga St.

—To Mr. and Mrs. Warren I. Keeler was born on January 5, 1914, a son, by name, Nelson Herbert.—S. A. Kephart is now a major in the army, and is stationed at Jackson Barracks, La.—E. F. Lewis may be reached at 30 Alumni Ave., Providence, R. I. —The address of H. M. Lewis was given in the recent '07 directory as Napa Junction, Colo. This town is in California.—A. J. Lang, a former member of '07, is superintendent of the Standard Portland Cement Company at the same place.—Since April, 1913, William H. Martin has been in the hydraulic engineering department of the Electric Bond & Share Company, 71 Broadway, New York. His address is 279 Henry St., Brooklyn, N. Y.—Fred Morrill, employed by J. R. Worcester & Co., has been in Providence for some time designing structural steel work for the Rhode Island Company, but at present is in Fall River designing reinforced concrete for the Quequechan River Commission.—John Nicholl is with the Riverside Boiler Works, Inc., 19 Congress St., Boston.—Hugh Pastoriza has left Keokuk, and is with the Electric Bond & Share Company, 71 Broadway, New York.—L. P. Russell is with the Indian Refining Company, Boston.—Mail for E. M. Richardson should be addressed to him at St. Anthony Club, New York City.—W. P. Rayner has left Philadelphia and is factory representative of the White Company in Washington, D. C. His residence is The Summit, Euclid St., Washington.—Arthur T. Remick is with the United Drug Company, Boston.—Robert Tappan, 35 West 42d St., New York City.—E. E. Turkington's address is 22 Otis St., Watertown, Mass.—C. J. Trauerman, of the metallurgical firm of Rothwell & Trauerman, Butte, Mont., has had charge of the milling operations of the Bully Boy Company, Marysville, Utah, since March 1.—Willis G. Waldo is general manager of the Comal Rock Company, crushed rock products, New Braunfels, Texas.

William P. Monahan.

William P. Monahan was drowned on January 25, twenty-six miles from Fresno, Cal. He was caught in a cloudburst and was swept from his horse while trying to ford a swollen mountain creek.

While at the Institute he was prominent in the Glee Club and in the Technology Shows, and for two years was catcher on the 1907 baseball team. After leaving Tech he was with the Charles River Basin Commission as civil engineer until the completion of the dam. Then he went to Mexico for the K. C. &. M. R. R. and was resident engineer at Chihuahua until the uprisings stopped all engineering work. After that he was employed by the Stone & Webster Engineering Corporation and for the past three years had been one of the engineers on the "Big Creek Development" job. This is the largest work of its kind in this country and is to develop power to be used in Los Angeles 250 miles away. At the time of his death, Monahan was in charge of the transmission line work, and the superintendent of construction, in writing of him, said, "His work here was exceptionally good and we considered him a most valuable man. Had he been spared he would have made a mark for himself in his chosen profession." His funeral took place from his home in Brookline on February 5 and Messrs. Robert K. Taylor and Stanley D. Moore of the class were among the bearers.

Letters addressed as follows have been returned:—H. A. Frame, Sault Ste. Marie, Ontario, Canada.—B. D. Johnson, 419 6th St., N. W., Washington, D. C.—J. F. Johnston, 175 Kempton Ave., Oakland, Cal.—J. R. Randall, Powell River Paper Co., Powell River, B. C.

If any reader knows the correct address of any of these men, he will confer on the secretary of '07 a favor if he will advise him at once.

1908.

RUDOLPH B. WEILER, *Sec.* care The Sharples Separator Co., West Chester, Pa.
CHARLES W. WHITMORE, *Asst. Sec.*, 1553 Beacon Street, Brookline, Mass.

I.

On the part of the Secretaries.

Your secretary attended a meeting of the Technology Club of Philadelphia in that city early in February and met J. C. McGowan who is with the Campbell Soup Company, Camden. A. C. Merrill was also there and asked McGowan to solve the mystery of "6 plates for 10¢," which he did by saying that the size of the plates was not specified. George C. Lees was present, having recently come to Philadelphia as assistant district sales manager of the Easton Car & Construction Company, 1605 Real Estate Trust Building.

The annual letter was sent out as usual on March 1, and a statement enclosed to each member showing what dues were paid and

what were owing. Some of the members have conferred the degree N. G. on the secretary as an accountant. All reported discrepancies with regard to dues will be investigated, and adjusted to the full satisfaction of the combatants.

Jack Callaway writes:—

A couple of hours ago I changed my job, so put me down for the following address after March 23,: mechanical engineer with Gunn, Richards & Company, 43 Exchange place, New York. Enclosed find check and pedigree.

L. H. Allen writes from Norfolk, Va., under date of March 6:—

Am herewith returning some of the stationery that I just received from you together with 1914 class dues.

Having left the New Haven R. R. last month, I am now engaged on the valuation of the Norfolk Southern by the Interstate Commerce Commission under the act which you may have seen, that provides for the valuation of all the railroads in the United States, which, by the way, is some stupendous task. The party here is party No. 1 of the Eastern District, so you may see that we are well in the vanguard.

The first thing I did when I arrived in town was to call at the Virginian office to locate Johnny Tobin and discovered that he is at present in Princeton, W. Va., and that he is rarely in town.

We expected in coming South from New England to run into spring-like weather but "nay, nay Pauline," we had a couple of days with snow on the ground and a temperature below 20°, but since then it has been more seasonable.

—The Terry Steam Turbine Company, Hartford, Conn., announces the appointment of H. A. Rapelye as sales engineer in the Pittsburgh district, with offices at 2123 Oliver Building, Pittsburgh. He has been for the past two years the commercial engineer of a company prominent in the field of prime movers and auxiliaries.

We regret to report the death on January 9, 1914, of A. H. Duke, after an illness of more than five years.

New Addresses.

J. Scott MacNutt, care of Wells' Sons, 191 Ninth Ave., New York City.—Lincoln Mayo, 11 Robeson St., Jamaica Plain, Boston, Mass.—Herbert T. Gerrish, 247 Atlantic Ave., Boston, Mass.—LeSeur T. Collins, 70 State St., Boston, Mass.—Franklin T. Towle, 20 Kilby St., Boston, Mass.—Joseph H. White, Bureau of Mines, Pittsburgh, Pa.—William H. Toppan, 141 Milk St., Boston, Mass.—Harry L. Burgess, care of American Tel. & Tel. Company, New York City.—R. E. Manning, 31 Milk St., Boston, Mass.—H. S. Eames, University of Illinois., Urbana, Ill.—F. Schneider, Jr., New York City.—Arthur O. Christensen, Franklin Furnace, N. J.—W. D. Ford, 200 Devonshire St., Boston, Mass.—Alfred B. Babcock, care of American Sugar Refining Company, S. 4th St. and Kent Ave., New York City.—Arthur L. Gardner, Plant No. 1, R. &. H. Chemical Company, Perth Amboy, N. J.—W. B. Hunter, Fitchburg High School, Fitchburg, Mass.—W. C. Kerr, Catonsville, Md.—Arthur C. Winch, Saxonville, Mass.—Harry Webb, Box 569, Memphis, Tenn.—J. S. Barnes, Merrell

Soule Company, Syracuse, N. Y.—L. D. Nix, 706 American Bank Bldg., Birmingham, Ala.—Charlton D. Putnam, 1010 Schwind Bldg., Dayton, O.—Oscar A. Iasigi, 46 Gorham Ave., Brookline, Mass.—Chester C. Ford, 220 S. Michigan Ave., Chicago, Ill.—Dr. E. C. Howe, 6 Middlesex St., Wellesley, Mass.—Richard C. Collins, 42 Thorndike St., Beverly, Mass.—V. E. Bird, 31 Union St., New London, Conn.—Robert A. Angus, care of Westinghouse, Church, Kerr & Co., 901 Shaughnessy Bldg., Montreal, Que., Can.—John C. Brooks, St. George's Inn, Wallingford, Conn.—Monroe Ames, Engineer of Structures' Office, Boston & Maine R. R., Medford, Mass.—Walter E. Caldwell, care of W. E. Caldwell Company, Louisville, Ky.—S. H. Daddow, St. Clair, Pa.—G. M. Belcher, care of W. H. McElwain Company, Manchester, N. H.—Leslie B. Ellis, care of Lockwood, Greene & Co., 60 Federal St., Boston, Mass.—J. B. Stewart, Jr., care of Mahoning & Shenango Railway & Lighting Company, Youngstown, O.—A. A. Longley, 1324 Marquette Bldg., Chicago, Ill.—Carl A. Hall, Concord, N. H.—Edward Leon Warren, McElwain E. Central Plant, Manchester, N. H.—E. R. Hall, care of Goodyear Tire & Rubber Company, Akron, O.—Gregory M. Dexter, Box 195, Salt Lake City, Utah.—E. H. Newhall, Revere Sugar Refinery, East Cambridge, Mass.—G. M. J. Mackay, Research Laboratory, General Electrical Company, Schenectady, N. Y.—Robert D. Hennen, Morgantown, W. Va.—R. E. Drake, care of Avon Sole Company, Avon, Mass.—Philip C. Brown, care of I. B. Williams & Sons, Dover, N. H.—Kurt Vonnegut, 610 Indiana Trust Bldg., Indianapolis, Ind.—J. H. Locke, care of Commonwealth Steel Company, Granite City, Ill.—Huntley Child, Yellowstone Park, Wyo., Hotel Biz.

1909.

CARL W. GRAM, *Sec.*, care Walter Baker & Co., Ltd., Milton, Mass.

On March 9, at the First Universalist Church, Lynn, Mass., at half after seven, the secretary was married. His bride was Miss Hazel Schlehuber, of Lynn. He is now on his honeymoon, and the treasurer, having just returned to the bosom of his family from a four months' jaunt in charge of surveys in the White Mountains, finds amongst other encumbrances on his long vacant desk an entreaty from the secretary to take charge of this report in his absence. Carl Gram's wedding, by the way, was decidedly the most brilliant event of Lynn's winter season—witness the headlines in Boston papers. His best man was "Chet" Pope. He evidently intends taking married life seriously, judging by his reported withdrawal from athletic activities with the B. A. A. in order to be able to spend an occasional evening at home.

The following letter from Pardee, the class representative at the Chicago reunion, relates what transpired there last month:—

"I am glad to report that the class 'doings' at the all-Technology reunion in Chicago were fully in keeping with the spirit, the loyalty and the good fellowship that prevailed during those last few days in June, 1909, when we were all together and too happy to linger over lasting good-byes. Those of us who could be present at the reunion endeavored to represent the class and few were the absent ones who did not come in for a share of old time gossip and remembrances.

We had a quiet little luncheon on Friday the 20th and the following memorables were present: Ridsdale Ellis, XIV, who comes from New York, Liverpool, and 'Lun'non' town. Rid will engage in business here as a foreign patent solicitor and he will patent anything including a little scheme he has of making money in Chicago. Rid is a bright man. Lawrence R. Forrest, X, who has been here a little over a year, is making smoke and coke for the By-Products Coke Corporation of South Chicago. They say he 'pitches' right into his work. J. Carlisle Bollenbacher, IV, is in the practice of architecture with Elmo C. Lowe, '05. It is said that one of these gentlemen designs on the drafting table and the other has designs on the pocketbooks of their clients. Alonzo Moses, VI, who is selling switches (electrical switches) and is always there with the smooth 'suasion. His motto is, 'Pushing our push buttons is better pushing than pushing anybody else's push buttons.' Robert C. Kerr is engineering with Sargent & Lundy and has been with that firm for a great many years since graduation. A notable feat of engineering that Robert did was to go through Tech and not let on to the rest of us that he was married all the time and had two little ones of his own. We wondered whence the source of his deadly earnestness. Harvey S. Pardee, VI, ye humble (?) scribe, has been engaged in consulting practice, electrical illumination, and power transmission for a couple of years. He will be glad to consult with any '09 men who come to this village looking for a good time.

"The smoker Friday evening broke up the class into departmental sections. Course VI was represented by some 40 or 50 members with Prof. Jackson presiding at the table. We enjoyed '*again*' his association with us.

" The Saturday morning excursion to Gary was well attended and the Tango Tea in the afternoon developed a number of stars previously undiscovered by our social astronomers.

"The banquet of Saturday night will last in memory as long as memory endures. Bradley Dewey of Pittsburgh, Dan Belcher, and Ralph O. Reed were guests of the local men, Alonzo Moses, Harvey S. Pardee, and Lawrence R. Forrest at the '09 table.

"With the eats and the songs, the cheers and the great speeches, we seemed to live over again the days of our graduation celebration.

"In concluding this letter in behalf of the Chicago classmates, let me extend our personal welcome to the rest of you to visit us

and this great city. Remember the luncheons at 12.30 p. m., the Grand Pacific Hotel, every Thursday. '09 is nearly always well represented there."

We note with awe that John J. Elbert, Ph.D., recently addressed the Northeastern Section of the American Chemical Society on "The Fixation of Nitrogen of the Air by Means of a Boron Compound!" Jack is now with the Fibre Finishing Company of Worcester.

Kenneth May still holds down his job in the Expert Department of Stone & Webster. He is responsible for information to the effect that Harry Whitaker's engagement to Miss Grace L. Francis of Middletown, Conn., was announced on December 25, 1913. "Ken" also reports that Ray Temple has a son.

The *Boston Transcript* of January 14, 1914, makes note of the publication of Franz Schneider's report for the Russell Sage Foundation upon the public health situation in Atlanta, Ga. As investigating specialist, Schneider has made a thorough study of the mortality in Atlanta and has made recommendations for improvements in the methods of health administration in that city.—Alfred G. Kellogg is in Paris, where he is studying painting. The *Boston Globe* December 28, 1913, published a very interesting letter from him relating incidents and impressions of everyday life and remarking the contrast between Boston and Paris as regards methods of city improvement.

Claude T. Wilson, Course I, has for the last three years been in the employ of the Tidewater Building Company and T. B. Bryson of New York as assistant engineer and superintendent of construction. He was married on June 21, 1913, to Miss Elizabeth Paton Spring of Naugatuck, Conn. They reside at 216 Meadow Street, Naugatuck, near which place "Tug" has recently been engaged in superintending work for his employers.—Robert N. Hoyt has been appointed special lecturer on public health administration at the Institute. Hoyt was health officer at Princeton, N. J., and a year ago came to Massachusetts to become administrative officer for the coöperative community health work that has been adopted by a number of towns about the city.—Lieut. Fred M. Green, U. S. A., and Mrs. Green announce the birth of a son, Standish, on January 30, 1914, at Newport, R. I.—Announcement has been received of the marriage of Miss Irene Basch to Ira William Wolfner on February 3, 1914, at Chicago. Their new home is at 248 Randolph avenue, Peoria, Ill.—F. H. Soderstrom, who has been with the Ray Consolidated Copper Company, has severed his connection with them. His present address is 12 Danville St., West Roxbury, Mass.

The class will regret to learn of the death of Harwood Young Frost on December 27, 1913, in Lunenburg, Mass., where he was seeking relief from tuberculosis.

It is out of the question for the treasurer to let this opportunity pass without reminding the members of the class that these are

the opening months of the new year and that the annual dues of $1.00 are in order, particularly in view of the fact that the big reunion next year will make disbursements necessary if we are to keep 1909's showing up to the mark set at the big time in 1909. There is now about $250 in the treasury which will be far from adequate, judging by the experience of other classes at the time of their five-year reunions.

Send checks to A. L. Shaw, treasurer, 42 Orkney Road, Brookline, Mass.

Address Changes.

Elliot Q. Adams, 2642 Bancroft Way, Berkeley, Cal.—W. E. Boardman, 19 Richardson Ave., Wakefield, Mass.—J. H. Critchett, 6 The Mentz Apts., Niagara Falls, N. Y.—Robert E. Doane, Standard Underground Cable Co., Pittsburgh, Pa.—Warren L. Dubois, care of Y. M. C. A., 1164 E. Jersey St., Elizabeth, N. J.—Gordon M. Gilkison, care of Utah Power & Light Co., Wheelon Plant, Collinston, Utah.—Herman W. Haynes, U. S. Food Laboratory, 88 Broad St., Boston, Mass.—Armin F. Herold, Box 13, Redlands, Cal.—Carleton W. Hubbard, 106 East 19th St., New York, N. Y.—Robert M. Keeney, U. S. Bureau of Mines, University of Utah, Salt Lake City, Utah.—A. W. Lunn, 45 Washington Terrace, East Orange, N. J.—George A. Morrison, 11014 Prospect Ave., Morgan Park Station, Ill.—George T. Palmer, 200 Claremont Ave., New York, N. Y.—Rev. Elmo A. Robinson 6 Middlesex, Wellesley, Mass.—Arthur M. Rosenblatt, care of Virginia Power Co., Charleston, W. Va.—Franz Schneider, Jr., Russell Sage Foundation, 130 East 22d St., New York, N. Y.—F. H. Soderstrom, 12 Danville St., West Roxbury, Mass.—A. F. Stevenson, Woodward Apts., Washington, D. C.—Herbert J. Stiebel, Bingham Canyon, Utah.—Miss Rebecca H. Thompson, care of Kamehameha School, Honolulu, T. H.—Franklin T. Towle, 8 Clement Ave., West Roxbury, Mass.—George E. Washburn, Sybelstr. 6 b. Stelzer, Charlottenburg, Berlin, Germany.—Edward E. Wells, 4831 Western Ave., Montreal, P. Q., Canada.

1910.

JOHN M. FITZWATER, *Sec.*, Industry, N. Y.
G. BERGEN REYNOLDS, *Asst. Sec.*, 142 Highland Avenue, Somerville, Mass.

The following notes and letters have been received by the secretary. Under heading of 25 Falmouth Street, Belmont, Mass., W. R. Waldo, I, writes:

Last May I left Fred T. Ley & Company, with whom I had been on outside construction work since graduation, to accept a position with Leighton-Mitchell Company of Boston. I am now on the inside doing estimating work. This is the sort of work I have wanted for some time.

We are keeping house at the above address and should be very much pleased to see you if you ever get to Boston.

By the way, I am still searching the REVIEW for your engagement.
Our regards to yourself and Phil. Trust business is rushing.

Gillis, I, writes from 10 N. Madison Street, Walla Walla, Wash., which is now his permanent address:—

Received your card last week and was glad to find that the highway investigation in your neck of the woods had not put you off the map.

As for myself, I have been with the Highway Department as assistant engineer since last June when the irrigation work for Sanderson & Porter was completed. Put in the summer locating and am now planted in this populous metropolitan burg, building a couple of miles. Expect to start another small job before long and will then spend my time between the two.

I was much astonished last fall to meet Tom Saul with Mrs. Tom at the Oregon Grill in Portland.

O'Neill still holds the fort in New York at the same old stand. Wish to thunder I could manage to stand still in one place that long. Up to date two months is about the limit that I have been able to spend in any one place.

Austin Mason, I, is back in Boston working on the new Tech; address Hotel Charlesgate, Boston.—Carl H. Lovejoy, I, 7 Christopher St., Dorchester, Mass., writes:—

Am still in New York with the Public Service Commission on subway work. Miss Grace Gaffney and I are expecting to be married this summer.

W. C. Arkell, I, Canajoharie, N. Y.:—

Nothing new. Same job; same everything.

Lasley Lee, I, 505 Custom House, San Francisco, Cal.:

Am still with the Water Resources Branch in California. Have not heard any other news since Russ Wells and Drink Cleverdon were married.

John Lodge, I, Media, Pa.:—

Am in New York again working on the Astoria Gas Tunnel. Haven't seen any '10 men in a long time. Made a successful escape from Republica Mexicana last June.

John Ahlers, I, is receiving congratulations. He writes as follows:—

Little news? I have *big* news. A boy was born to us November first; can you beat that? He says Tech is good enough for him, and that he will run Harvard out of Cambridge.

Address: Central Avenue, Walnut Street, Richmond Hill, New York City.

Herbert Dornberger, I, instructor in mathematics and in Construction School of Applied Design, Carnegie Institute of Technology, Pittsburgh, Pa.

R. J. Torralbas, I:—

I am quietly supplying the city with plenty of good water and worrying about a 36-inch main. I may have to review Prof. Porter's notes for information and then translate it into 36 Spanish ins. I follow news for New M. I. T. with interest. Sometimes I see one or two Tech men of our half-dozen or more alumni. Last month Cadenas, '13, and myself got together and held an "Alumni banquet."

Address: 75 E. Palma, Havana, Cuba.

John Avery, I:—

I am still with H. P. Converse & Company, general contractors, who have the contract for the new commonwealth pier, No. 5, in South Boston. It is rapidly nearing completion and when finished will be the largest and finest dock in the world. I still enjoy a single state of blessedness and see no prospect of any immediate change for the worse. Ride to town quite often with Hallie Billings whose daughter is getting to be quite a young lady. Albert Huckins' intended resides in this town, so I occasionally see him around.

Address: 45 Perkins Street, West Newton, Mass.

H. N. Cummings, I:—

I am running a little civil engineering course at Mechanics Institute, Rochester, this year. Came down out of the woods last November. It seems good to be again in the land of trolley cars, electric lights and cabaret shows. Living at 49 Atkinson St., where Mrs. Cummings and I shall always be "at home" to any one from 1910.

George L. Mylchreest, I, 106 Campfield Avenue, Hartford, Conn:—

I send this card just to let you know I am still at the old stand and have the pleasure of the company of R. A. Smead, at the office.

Harold J. Parsons, I, 100 State Street, Albany, N. Y.:—

Have been with Henry W. Taylor, consulting hydraulic and sanitary engineer of Albany, since leaving George W. Fuller last summer. R. B. Fuller, '09, who had just been chased out of Chihuahua by the rebels was with me on a job at Sidney, N. J., the early part of the fall. I am the only engineer Mr. Taylor keeps permanently so get a chance to take a whack at all the varieties of engineering.

E. W. Pilling, I, Dedham, Mass.:—

Am still with E. Worthington, '85, spending most of the time in Dedham, but sojourning this last summer in Rumford, Maine. Haven't seen a '10 man for ages!

Guy A. Harcourt, I, 219 Rochelle Avenue, Philadelphia, Pa., enlightens us as follows:

I'll tell you something—I am engaged, honest—"Ring engaged" to Miss Millicent Gifford and we will be married in the spring. I am a very lucky man; me that has been what I've been and seen what I've seen. Am with the department of city transit on subway work for the city of Philadelphia.

Kenneth P. Armstrong, I, 7 Water St., Boston, Mass. Member Boston Society Civil Engineers.

John C. Diehl, I, Renovo, Pa.—

With P. R. R. at Renovo as assistant to division engineer. Married to Miss Mary Thomas Baird last June. Best wishes to all 1910 boys.

John M. Fitzwater, I, secretary, 1910, Industry, N. Y.:—

So far have been looking up N. Y. state roads for construction next season.

The following comes from J. B. Babcock, 3d, I, 822 New Birks Building, Montreal:

Your postal received after several forwardings. I am still with the Ambursen Hydraulic Construction Company of Canada, at present located at the head office

in Montreal. I have just returned from a five months' job in the West, our company having just completed a reinforced concrete dam for the town of Swift Current, Saskatchewan, on which I was resident engineer.

I have been traveling about so much that I haven't been able to keep in touch with the fellows as I should have liked, in fact I quite often miss my REVIEWS owing to this moving game of construction. I see Abbot Allen occasionally as he is here in Montreal with the Westinghouse, Church, Kerr Company.

Hope I shall some day be able to get to a class dinner.

Louis G. Rowe, I, Society of Engineers, Boston, Mass.:—

Am still with the army engineers on river and harbor development. Recently on survey of Merrimack River and met Roy Abbe, II, at Newburyport. J. A. Ropes, III, just returned from Europe where he has been investigating the efficiency of foreign factories.

Smead, I, sends in a word, to say he is at the same place, Buck & Sheldon, Inc., and busy with design and inspection of concrete and steel. His address is 197 Jefferson St., Hartford, Conn.

Philip W. Taylor, I, mentions the fact of his marriage last September, but offers no particulars. He is designing sewers and disposal plant details. Address: 745 Main St., Fitchburg, Mass.

Gorton James, I, 145 High St., Naugatuck, Conn.:—

Am working as an assistant to the assistant general manager of the Rubber Regenerating Company. Met your former room-mate, Wilson, '09, the other night at a dinner. He has been here in connection with a new fine bridge just finished. Been so busy with my new work that I haven't had any time for Alumni Fund matters, but they have been very quiet lately any way. 1910 is still holding the first position of all of the younger classes and we have a right to be very proud to belong to this class.

Ralph Preston, II, writes as follows, from the University Club, Akron, Ohio:—

We very much miss our departed classmate Arthur Truette. John Tuttle and I are the only 1910 men in Akron now. We are both in the experimental department of the Goodyear Tire & Rubber Company. The tire business has been comparatively quiet the past few months but looks good for spring now. Am very pleasantly quartered here at the University Club with my brother (Williams '11) who is in the sales department of the Goodyear. Had a great trip abroad last summer for the international balloon race with R. H. Upson, (Stevens 1910) (one of my assistants) who piloted our balloon *Goodyear* in the race. As far as I can see the Akron 1910 contingent has little prospect of joining the benedicts. Saw Max Sherman a few days ago. He is with the Babcock & Wilcox Company in Pittsburgh. Likes his job, has two babies and seems generally happy. Best wishes to 1910.

Charles A. Robb, II, care of University of Alberta, Edmonton, South Alberta, Canada, says:—

Am still lecturing in mechanical subjects of civil engineering course at University of Alberta, and doing some consulting work on the side. At present am planning the heating system for the new dormitory. We are to have a new Arts building and science laboratory for next year so am looking for some developments. I have supervision of the Industrial Testing Laboratory of the university where we do practically all cement, brick, steel or testing for the City of Edmonton.

One certainly misses Boston out here in the woods. I was glad to get yours of January 25, and will try to make the Chicago trip, but am afraid there is too much work here.

Dean Peabody, Jr., II, sends in the following item from 85 Bartlett St., Somerville, Mass.:—

Mr. and Mrs. Arthur E. Roberts of Reading, Mass., have announced the engagement of their daughter, Marjorie, to yours truly. Miss Roberts is a senior at Jackson.

My working hours are largely spent in mixing cement and concrete mud pies and breaking things in the Testing Materials Laboratory, and in committing to memory Fuller & Johnston's new "Applied" for the benefit of the 1916 Course II's.

Atwood C. Page, II, 94, Woodland St., Hartford, Conn.:—

It will be impossible for me to attend the Chicago reunion. Next winter I hope to have time enough to get to the Boston meetings at least. Last year until the middle of the summer, I was with the Billings & Spencer Company. After a good vacation I returned to Hartford and am now with the Royal Typewriter Company.

Hal Manson, II, 167 Clinton Road, Brookline, Mass., writes as though success were with him:—

Took a trip through Canada and Pacific coast last summer and saw quite a few Tech men—Frank Bell, Jack Martin, Jimmy Trip, Paul Jeffers, Phil Hart, Branhall and some of the older fellows.

I am with Haskell Adams Company now doing some wholesale grocery engineering, it has got it all over mechanical. Have still escaped the fair sex.

F. F. Bell, II, 640 Post St., San Francisco, Cal.:—

Am going to make a big effort to write you a letter one of these days; but am so busy now that I can't seem to get around to correspondence.

Best of wishes. Might take a trip East soon.

Merrill W. Tilden, II, Drovers National Bank, Chicago, has some good news:—

I was so glad to hear from you, in spite of the touch, that I cannot resist forwarding a few words with my check.

I read each issue of the Technology Review with great interest, and am sorry that I have had so little news to contribute. This is an excellent opportunity, however, to announce the birth of a daughter, October 31, 1913. Aside from this I have nothing to offer which will look well in print.

Everett, III, has been wandering all over the country—is now in Montana for a short time. His permanent address is 40 Pleasant St., Waltham, Mass.

John M. Longyear, Jr., III, is now in Boston and may be addressed at 1619 Massachusetts Ave., Cambridge, Mass. He says:—

I was married to Miss Elizabeth Barrett of Houghton, Mich., on May 24 last, and had just settled down in Calumet, as I had been transferred to the position of efficiency engineer at the Osceola mine, when the strike was called. As my wife wasn't anxious for her two months' husband to get shot up by a bunch of strikers, I got leave of absence to go on a real honeymoon, and came to Boston. While there, I saw that the strike was very evidently lined up for a long siege, so I undertook some postgraduate work in geology at Harvard, and here I still am. Ken Jenckes, '10, was also up in Houghton, and got married to Miss Edith Gifford Scott, shortly after my marriage,—July 25, to be exact. He was working for the du Pont (later the Atlas) Powder Company, there, and their plant shut down for the strike. He's working again now, however.

Donald A. French, IV, may be found at 192 Fairmount Ave., Hyde Park, Mass.:—

In the line of news I can think of nothing very exciting. The work on the new buildings is progressing, mostly inside, however, at present. Like so many other things, eleventh hour changes have a tendency to hold up the actual construction. But the new layout will put any of our contemporaries distinctly in the shade!

A. K. Huckins, VI, 6 Wilbur St., Dorchester, Mass.—

It was not so very long ago that I gave the history of my life to date in response to a plea from Reynolds, and as nothing of moment has occurred since then, I'll let it go at that.

H. M. Trueblood, VI, is now a Ph.D. (Harvard) and engaged to be married to Miss Louise Nystray of Hastings-on-Hudson, N. Y.—G. C. Conner, VI, writes from Boston, and will be glad to have a call from some of the fellows:—

Have charge of the Incandescent Lamp Department, Pettingell-Andrews Company, Boston. Things are breaking very well and it seems good to get back to Boston again after three years in Cleveland with the National Lamp Works. Am not likely to be married for several years yet. Wish you'd invite any of the 1910 bunch to call me up when they are in town.

James Cox, XI, has a new address—Sanders Road, Norwood, Mass.:—

News is as scarce as hen's teeth. The first Tech man I have seen for three months was Sam Cohen. He has just returned from his honeymoon,—lucky devil, I wish I were going on one now. Prior to this foolishness he has been building the Panama Canal for Goethals with great success.

A. B. Merry is working on the fortifications of the Pacific entrance to the canal, and does not know when he will return to the States. His address is Maos Island, Canal Zone.—Cliff Hield writes from 908 Pioneer Bldg., St. Paul, Minn.:—

Was in Montana in the lime yard game last winter. I enjoyed the work immensely, for the country is excellent and the people in it are on the job every minute. Came home in March, 1913, to take up the same line of work in Minnesota and North Dakota with my office here. Have seven yards to keep me busy now and my work in the office in St. Paul, together with frequent visits to the yards, make the work varied and interesting. In making the change I figured that the opportunities for a business training were better here than in the West. When I have enough of that same, I imagine that Montana will claim me again.

None of the 1910 delegation seems to make this country so cannot give you any news in that line. Pass the greeting for me to any of the class and tell them to look me up when they are in this vicinity.

Walt Spalding seems to be a contented spirit, as is most evident from the following letter headed 99 Young Hotel, Honolulu:—

Yes, I've noticed that 1910 is living up to undergraduate expectations as regards Tech spirit, and all that. Have you noticed, too, that Hawaii stands at the head of the list on the Alumni Fund. We have some fifteen or twenty Tech men in town and others including Prof. Jaggar on the other Islands. I met Christianson, 1910, Course I, and Mrs. Christianson yesterday. He has been in the Islands some time he told me and is now drilling the Windward end of three mile Waiahole water tunnel.

I am in charge of the Hawaiian business of the Spalding Construction Company.

We have two Government contracts under way at the Pearl Harbor Naval Station six miles from town and have recently completed another one there and one in Honolulu. In spite of the very heavy blow to the sugar interests here due to the tariff reduction other lines, especially pineapples, are developing and business is not altogether *pau* as they say here. Personally I have more to do than I can well take care of, in spite of a very efficient working organization to handle the work. But even without much business and prosperity I would prefer living in the Sunset Isles to any other part of the globe. I've been back to the states twice since coming here, but Hawaii always has looked better than San Francisco from the steamer decks.

H. E. Beebe, Ipswich, S. D.:—

In regard to news, I have been elected vice-president of the Bank of Ipswich and am also holding down the job of superintendent of the Baptist Sunday School. The supe is in Florida for the winter. So far the two positions have not conflicted very much—contrary to "The Masses" the "Appeal to Reason" and other socialistic papers. Probably the readers of the REVIEW do not keep posted to date on alfalfa, but it is a great question with us farmers. N. E. Hansen has just returned from Siberia with new varieties of hardy alfalfa and I happen to be the first one to get the new seed, except the United States Experiment Stations. The *hoi-polloi* (all the Greek I know) pay $5 per pound for the pleasure of possessing the same, but I am sort of a State Experiment Station goat. The goat does not pay for his feed, but it is also a question if he gets much of a cash return for it.

Any alumnus wishing a free feed of alfalfa is welcome at Homewood Farm.

Herbert L. Cleverdon is at 8 Pond Street, Greenfield, Mass.:—

I am now working in the northwestern part of the state, on hydro-electric development. Just think of a perfectly good architect descending to such a level! However, I have picked up much knowledge in the year I have been here. The fact is that I did not even know what a penstock or a stop log was when I came, but by the time I finish the design of the new power house I will feel as if I had completed both courses I and VI. My work here really is taking charge of and designing the building, but enough of the other work falls my way to make me wish that I knew more about it.

There are no Tech men around here, although I run up against one occasionally when I get to Springfield.

Well, here's luck to you! Hope to see you at our five-year reunion. It ought to be the best any class ever had, seeing it is an all-Technology year and the opening of the new buildings.

I'll be there if I have to walk.

R. S. Bicknell was married to Miss Edna Louise Bonton of Brooklyn, N. Y., January 5, 1914.—Mr. and Mrs. Armistead Lattimore Abrahams announced the marriage of their daughter Sue Sherman Garnett to Mr. Robert S. Breyer, on Saturday, February 14, 1914, Hollywood, Cal.—Mrs. Theodore Wardell Whittemore announced the marriage of her daughter, Elizabeth Browning, to Mr. Prescott Kinsley Wadsworth, on Friday, February 27, 1914, New York City. Wadsworth is engaged in fruit raising at Tilton, Wash.—C. P Monto is located with the Nungesser Carbon & Battery Company, Cleveland, as assistant plant superintendent and is actively engaged on carbon brush development work.—Gorton James is reported very much absorbed in his new business connected with the reclaiming of rubber at the Naugatuck, Conn., plant of the United States Tire & Rubber

Company.—Don Williamson, reports very interesting work in connection with the construction of the new Turner's Creek power plant of the Detroit Edison Company.—The following 1910ers were brought together at the recent annual big party of the Northern Ohio Technology Association at the University Club in Cleveland:—Rad Preston, H. G. Reynolds, C. P. Monto, Carroll Shaw, Tyler Carlysle, and Allen Gould.—Davis is still optimistic in spite of the fact that he reports the whole family sick—"including myself and the dog," and further says, "I have been doing considerable research work on diastase; find it a beautiful broad subject in which most text-books want to sidestep when it comes right down to real fact." Get "Davis on Diastase"—1st Edition 191x!—Hedden appears to be about to work—doesn't even have time to write his usual letter,—and besides "stamps cost money." —Get your guaranteed mortgages early—see Higbee, 1st Mortgage Guarantee Company, New York.—Lordy waxed facetious in his reply—it was lubricated with oily puns,—refined, of course. Here is an ether extract—

> Your ever welcome inquiry into my paraffine existence finds all things waxing well with me. My "greatest stunt" was nothing crude I assure you, since on December 27 the stork slipped me a daughter,—Elizabeth Wills Lord,—who joins me in reporting oils well with us.

That's fine Lordy, but you need wash-bottle attention about those puns.—Waters has left the Joseph Campbell Company Laboratory and has returned to Boston for six months to take special studies in the new Tech-Harvard Public Health Course.

The Argon Group remain inactive. Be a Halide!—H. L. Lang spent his first two years after graduation as assistant in chemistry at the Institute, resigning this in May, 1912, to accept a position as scientific assistant in the U. S. Department of Agriculture, where he has been engaged in nutrition investigations. He was married in May, 1912, to Miss Lillian A. Stanley of Roslindale, Mass. Present address 1343 Perry St., N. W., Washington, D. C.—H. R. Perry has resigned as assistant in the Mining Engineering Department at the Institute, to enter the Engineering Department of the W. H. McElwain Company at Manchester, N. H.—Stover writes that he is still at Louisville, Ky., and endeavoring to furnish good water in a community already famous for its other beverages. He was in Boston for a short visit during the summer but did not see any of the fellows except Luther Davis, whom he ran across while waiting for a train at the South Station. He has also apparently been doing a little writing on the side as a paper on mechanical filtration appears under his name in the 1913 *Proceedings* of the American Water-Works Association.—W. F. Wells when last heard from had resigned his position at the Washington Filtration Plant and is, I hear indirectly, now located at the University of Illinois, engaged in dairy work. —F. M. Scales is still with the Department of Agriculture at Washington, and occupied

on research work. He is joint author with I. G. Mcbeth of *Bulletin* No. 266 of the Bureau of Plant Industry, the title of which is, "The Destruction of Cellulose by Bacteria and Filamentous Fungi." The bulletin is very well written and also contains a number of excellent photographs of the bacteria as seen under a high power microscope.

Mail sent to the following has been returned. The secretary will appreciate receiving information concerning these lost 1910 men: William L. Enfield, Willis R. France, George O. Ferguson, Raymond H. Fellows, Winfield U. Foster, James A. Given, Bedros M. Goomrigian, James A. Grant, Lester C. Greenwood, Walton G. Harrington, Ira S. Hartman, Frank A. Hayes, William Hileman, H. H. Hodgkinson, Francis B. Hooker, Jr., Tora Inouye, Jesse E. James, Francisco S. Jimenez, Shige Kitso Komizo, Leal C. Lee, Raymond O. Lozoya, Leonard M. Lusky, Mark Nickerson, Rumualdo L. Olaguibel, Wallace D. Richardson, William T. Roberts, Howard F. Sheperd, Francis D. Smith, Sydney I. Snow, Martin O. Sparrow, Charles J. Toner, Hachiro Yamada, Miss Jane P. Bigelow.

Address Changes.

Roy H. Abbe, 268 High St., Newburyport, Mass.—W. C. Arkell, Canajoharie, N. Y.—Earl H. Barber, 17 Maple Ave., Newton, Mass.—F. F. Bell, 640 Post St., San Francisco—V. T. H. Bien, 40 Stewart St., Quincy, Mass.—Braxton Bigelow, care of Mororocha Mining Co., Mororocha, Peru, S. A.—Leroy E. Briggs, 29 South Walnut St., East Orange, N. J.—Dudley Clapp, Valdesta, Ga.—G. C. Conner, care of Pettingell-Andrews Co., Boston, Mass.—F. H. Dewey, Yarrow West, Bryn Mawr, Pa.—W. Dexter Everett, 40 Pleasant St., Waltham, Mass.—Anch L. Fabens, Northern Aluminum Co., Ltd., Toronto, Canada.—R. E. Gegenheimer, care of Waltham Watch Co., Waltham, Mass.—G. E. Goodspeed, Jr. School of Mines, Oregon Agricultural College, Corvallis, Oregon.—A. L. Harding, care of D. C. & William B. Jackson, 248 Boylston St., Boston,—J. Kearsley M. Harrison, The Tudor, Beacon and Joy Sts., Boston, Mass.; Office, 24 Milk St., Boston, Mass.—S. L. Henderson, 404 Gray Bldg., Wilkinsburg, Pa.—Albert K. Huckins, 6 Wilbur St., Dorchester, Mass.—John Lodge, Media, Pa.—Carl H. Lovejoy, 7 Christopher St., Dorchester, Mass.—E. F. Merrill, 6223 Kimbark Ave., Chicago, Ill.—James Stewart Cox, Sanders Road, Norwood, Mass.—George P. Lunt, 75 Pitts St., Boston, Mass.—H. C. Manson, 167 Clinton Rd., Brookline, Mass.—Austin B. Mason, Hotel Charlesgate, Boston, Mass.—A. B. Merry, Naos Island, Canal Zone.—Atwood C. Page, 94 Woodland St., Hartford, Conn.—Dean Peabody, 85 Bartlett St., Somerville, Mass.—Alfred I. Phillips, Jr., care of The Syracuse Lighting Co., Syracuse, N. Y.—R. W. D. Preston, The Goodyear Tire & Rubber Co., Akron, Ohio.—Charles A. Robb, care of University of Alberta, Edmonton South, Alberta, Canada.—Carroll H. Shaw, 250 Shaw Ave., East

Cleveland, Ohio.—Francis B. Silsbee, Bureau of Standards, Washington, D. C.—Karl D. Stellwagen, 1808 Dime Bank Bldg., Detroit, Mich.—Oliver Stevens, 53 Central St., Lowell, Mass.—H. E. Stump, 50 Church St., New York City.—Rafael J. Torralbas, 75 E. Palma, Vibora, Havana, Cuba.—H. M. Trueblood, Jefferson Physical Laboratory, Cambridge, Mass.—Yuan Tse Tsai, 3159 W. Warren Ave., Chicago, Ill.—R. P. Waller, Cooperstown, N. Y.

1911.

ORVILLE B. DENISON, *Sec.*, Hotel Standish, Worcester, Mass.
HERBERT FRYER, *Asst. Sec.*, 1095 Fellsway, Malden, Mass.

Your first glance at the heading of the 1911 notes this month will reveal the fact that the class now has an assistant secretary. The secretary, feeling the need of a "live wire" right on the job in Boston, at once turned to Bert Fryer as a veritable white hope. Fryer has taken the job, so there you are! See how simple it is?—Having imparted this important news nugget (and it really is a regular newspaper "beat" for the REVIEW—this being its first public announcement) the secretary will now set about his time-honored custom of imparting cheer and chatter to the members of 1911. There are a number of things that might well be discussed in this article, notably the plans for affiliation with Harvard engineering activities, but the secretary will allow Brother Ike (meaning Litchfield, of course) to present such news in the front part of the magazine.—Since the last 1911 story appeared in the REVIEW in January, the class has had an enthusiastic dinner in the Union, arranged as usual by the genial assistant secretary, "Groucho" Fryer. It was on the evening of January 24 that more than a score of 1911ers sat down to one of Steward Colton's "best" in the Union. We were fortunate in having for our guest of the evening Dean Burton. The other speaker of the evening was a classmate, George C. Kenney, who told in a most interesting and original manner of his experiences in Canada, while engaged in railroad work. The Dean gave an interesting explanation of the scope and meaning of Doctor Maclaurin's well-arranged plan for inter-work with Harvard University. No space will be used here to chronicle the Dean's talk, as all of the details of the merger appeared in the February number of the REVIEW. Herb Fryer was toastmaster of the evening, and, in the course of the dinner, the secretary spoke a few words upon class affairs, and indicated that the class treasury, while by no means badly off, could not well stand the drain of the coming five-year reunion in 1915 without being added to. It was therefore decided that in June of this year class dues of $1.00 should be levied, the money thus obtained to be added to the general class fund and used for reunion expenses, etc. Accordingly you will receive ere long a *billet-doux* from the

secretary, requesting one bone,—eight bits, twenty jitneys, or in plain United States—one hundred cents! Among those present at the dinner were: Dean Burton, Fryer, Kenney, Herlihy, Coupal, H. M. Davis, Haines, M. W. Hopkins, Wardwell, F. A. Wood, S. A. Francis, Leary, Coleman, Frazier, Burleigh, Richmond, Besse, Pead, G. A. Brown, Clark, Hall, Crowley, Barker and the secretary.—The February reunion in Chicago was certainly a hummer from all reports, and full accounts of it may be found elsewhere in the REVIEW. The secretary will, however, print a letter received from Bill Foster, who acted as 1911 representative on the general committee. The letter, in full, follows:

"I want to drop you a line to let you know something about the Chicago reunion. I suppose you have heard about the general affairs and the success with which they were pulled off; there was a marvelous spirit exhibited that made one feel he was glad to be a "Techer."

The 1911 bunch got together on the first day for lunch. There were seven of us: Alter, Gaillard, Stanley, West, Wilds, Peycke, and myself. Wilds is traveling most of the time and fortune was good enough to bring him to Chicago just at that time; we were rather surprised to see him walk into the room just as we were eating. Bill Salisbury and R. H. Lord, whom we had expected, were both detained.

"The trips made to the various plants were mighty enjoyable and showed some pretty fine hospitality. And of course both the smoker and the banquet were the finest ever. It will certainly be some time before we forget the Chicago reunion and you people in the East will have a job to surpass it when you get your try in 1915."

—Had an interesting letter from Don Stevens recently in which he told of a banquet of the Technology Club of Northern Ohio, held in Cleveland on the 23rd of February, Washington's birthday. He enclosed an announcement of the affair and a menu. Both were very cleverly drawn up and indicate a wealth of Tech spirit existing in the Middle West. It is strange, but true, that the farther one gets from the Hub, the more seems to be the enthusiasm and spirit of sons of Technology! Don says he is very much pleased with the automobile industry—he is with the Peerless people, you know, in Cleveland. He recently wrote an article, "The Technically Trained Man in the Automobile Industry," which was published in the *Horseless Age* of November 19, 26, and December 3.—Ken Faunce is now with the Underwriters Bureau of New England, on factory inspection work. He recently was in Worcester for a day or two, and promptly looked up the secretary and Charlie Barker, as is meet and right for all good Tech men to do.—"Fat" Merrill is at Las Vegas, Nevada, wherever that may be. His exact address is not known by the secretary, but maybe "Opposite Railroad Station" will find him

because he's probably living in one of those three houses.—Had a nice long letter from I. F. Morrison in January. He is teaching at the University of Alberta, in Edmonton South, Alberta, Canada. He writes in part:—

There are three of us from the Institute here in the university and we watch every little movement made by those who are still hanging on to the apron-strings of the stepmother for whose guidance in the past we are ever grateful.

Once in a while I chance across a classmate here in Edmonton. They never seem to know enough to look around to see who else is here, as they think they are the first Institute grads who ever discovered this joint. But I don't blame them for feeling so after riding on the train for four days straight (not as bad as it sounds—I don't think you get it, though). I saw a parade by the "Unemployed" yesterday, but I didn't see any from the class of 1911 in it. Sorry not to be represented on such an occasion you know, but I think all of our classmates must have been on the job so they couldn't get away.

The last 1911 man I saw was (notice the reversible operation on those two words—I'm strong on those things these days—did it on purpose) Pete White. He didn't stay long though, but piked to Bassano, wherever that is. He's on a survey job there, I think. That was last summer. He may have gotten cold toes by this time as this country is getting chilled off as it usually does about this time of year. Well, I must gag this.

Remember me to any of the classmates whom you may see and tell them that they are always welcome here at the university when any of them wander out this way.

—Heard the first of the year from F. G. Smith, Course III, and he said in part:

Guess I've been neglectful lately for I see you have my old bachelor address. It is now 20 Woodlawn Terrace, Waterbury, Conn. I haven't heard from any of the "rough-neck" miners this last year. They are probably as preoccupied with their work as I am. Business in the American Brass Company's mills is pretty dull at present, but that doesn't seem to give us any ease in the laboratory.

—Bill Salisbury wrote recently from Chicago, and wanted best regards given to all the classmates, individually and collectively.—Classmates will be delighted to hear of the arrival of Eric Herbert Fryer, at the home of Mr. and Mrs. Herbert Fryer in Malden. Weight: 6 5–8 pounds.—Another new arrival is John Edward Orchard, who arrived, February 27, at the home of Mr. and Mrs. W. J. Orchard in Trenton, N. J. Weight: 8 pounds.—Still another arrival is Henry Caldwell Robinson, who arrived February 7 at the home of Mr. and Mrs. H. L. Robinson in Winchester, Mass.—Congratulations—three times!—W. O. Whitney wrote recently from New Brunswick, N. J., where he has been ever since leaving Tech. The following clipping from a New Brunswick daily, of recent date, speaks for itself:

Mr. and Mrs. H. M. Lessig, of Pottstown, Pa., have announced the engagement of their daughter, Ruth Jenkinson, to William Orr Whitney, of this city. Miss Lessig is a graduate of the Pottstown High School and Irving College. She has taught in the high schools at Doylestown, Pa., and Jenkintown, Pa., and came to New Brunswick last February as teacher of English in the high school. Miss Lessig took honors while in high school and at college. She is a fine elocutionist.

Mr. Whitney is a native of North Adams, Mass. He was graduated from the high school there and entered the Massachusetts Institute of Technology in 1907.

He left in the fall of 1909, coming to New Brunswick and entering the employ of the Brunswick Refrigerating Company, with whom he is still connected, now as assistant sales manager.

—"Pete" Gaillard is now in the Windy City with D. C. & William B. Jackson, consulting electrical engineers. He is located in the Harris Trust Building.—R. R. Stanley, a classmate, has gone into business for himself, and opened an office in the Karpen building, Chicago, Illinois. He is a consulting engineer, specializing in fire prevention and protection.—Carl G. Richmond has recently been elected a member of the school committee in his home town, Revere, Mass. He is still with the Highway Commission, engaged in roads and road building.—"Fat" Perry has ceased to be a target for Villa and his bandit crew in Mexico, and is now engaged in teaching in Rhode Island State College, Kingston, R. I. —O. D. Powell is located in Binghamton, N. Y., in the shoe manufacturing business. A recent letter from him reveals the following:—

I noted that you had no mention in the last REVIEW of the martyrdom of Howard P. Ireland, XI. It took place in Newton Center at the home of Miss Winifred M. McClelland September 6. They are very pleasantly located here now and always at home to Tech men. Of the bunch that came out here as efficiency experts a year and a half ago, only Ireland and I are left. Bierer, 1911, I, is also here and we are endeavoring to provide the females of the country with footwear. Believe me, it is some job, too. There are not many Tech men in this vicinity so far as I know. We often wish there were, so that we could get together occasionally.

If any of the class are around here they should surely drop in occasionally. We learned that Harrigan, XI, was in Corning and succeeded in roping him in for a Thanksgiving dinner here. Fuller, Course I, has been here a couple of times on highway work.

Binghamton, on the whole, is a stagnant place with little for excitement outside an occasional burlesque.

Chicago appeals to me, but I see little prospect of getting there. I wish I could persuade the firm that there was some business for me to transact there.

I guess this is the first dope I have handed the secretary since I came out here. Perhaps it is "enough."

—George Forristall is making a big noise in the newspaper game and is now with the *Galveston Tribune* in Texas. In a long letter, dated Christmas Day, he writes:—

I don't know whether the appeal for cash I received today or not was sent as a practical joke or it just happened to reach me here on Christmas day. Anyway, whether it's an appeal for money or mercy I am always glad to hear from you. I've been putting off writing for some time, but I guess that my share of the news is not too late now. I've moved about some since leaving New York last winter. Have seen New Orleans and its sights—use your imagination about that, Houston and its inflated values and now I am back by the sea again in that city of 50,000 which was wiped away by the flood thirteen years ago and which now has come to life and is rapidly growing into a wonderful city. I came down here to Galveston about two months ago to be advertising manager of the only evening newspaper here. We put out a pretty good newspaper and I manage, with the aid of two solicitors, to get considerable business for the sheet. Galveston is some town, quiet—in that respect like Boston and also conservative, perhaps more so than Boston. In this little town we have all kinds of money, there being about forty millionaires here. But that doesn't mean that I have risen to that rank yet, for when I do I

shall endow a few hundred scholarships in a new course of journalism at Tech or some such stuff. Galveston is a long narrow island separated from the mainland by a gigantic reinforced concrete causeway about two miles long. We have connection with the rest of the world by about eighteen railroads and an interurban road to Houston run by Stone & Webster. As a port, this town stands second in volume of export every year. Not so bad when you consider that New York is the first and we have only 50,000 people here. At the present time we have part of the U. S. Army down here. About 15,000 of it. They are in camp in Galveston and right across the bay at Texas City, another growing Texas town.

So far, the weather has been wonderful down here. I went into the Gulf of Mexico for a swim on the first day of December and am thinking of going in again this afternoon. You poor mortals freezing in New England, while we are still going around without overcoats and swimming in the surf. I am not married yet, but I have found the girl. She comes from New England and is still there. All I need is the license, the ring and the transportation down here and then you all can come down and visit. How's that? Dennie:—Write sometimes and let me hear the news. If anyone wants to know what has happened to me, tell them that I am very much alive, that I'm still drawing a little money to live on and that I'm having the time of my life working hard and playing little. Tell any Tech men that when they come down into this country they must look me up and I'll help show them why it's a good move to stay in Texas and particularly, Galveston, Port and Playground, as they call it.

Give my best to all.

"Zeke" Williams wrote a nice, long letter as a New Year's greeting to the secretary. He is in the marble business for himself in Winnipeg, as manager of the Williams Marble and Terrazo Supply Company. Here is Zeke's newsy letter:—

The November REVIEW has just come to me and reading the articles about my old classmates has at last stirred me up to write a few lines myself. Now that I have started, I intend to keep going, so please put me down among the "live ones." Whenever I see the words "live ones," I think of that bunch which kidnapped the freshman president, our sophomore year.

Since last making my presence known, I have changed around quite a little. I came up to Canada last March and the last of June started in business for myself, as this letter-head will show you. I have built up a good business and am going after everything this year. I have the exclusive agency for one of the largest New York Marble companies. My marble has gone into the new $2,000,000 Fort Garry Hotel which has just been completed and is slated for the new Quebec Bank now in the process of erection. I keep a number of marble and tile setters busy all the time. Just now I am completing two new fire halls and a smaller contract in the Bank of Nova Scotia, Elmwood. There are not many Tech men here. Polhemus, ex-1911, is one of my competitors, being a member of the Hackney Tile Company. We both estimate in the same manner, so it makes it quite interesting. I haven't located any other Tech men, but can't see why there shouldn't be more in this great Northwest. The climate is the drawback. They tell a story of an Englishman who went back to the old country and was asked about the climate of Winnipeg. He answered "winter and July" and such seems to be the case. Of course, it grows very cold, 40 or 50 below zero is ordinary during January and February. I eagerly devour the REVIEW and all news of Tech. It seems some distance to Boston but I try to picture the new site and all the details. I almost forgot some important news. You may have thought me a confirmed old bachelor, but I have fallen with an awful bump. Last July my engagement was announced to Miss Margaret Clark, Smith 1911, of Minneapolis. All summer my trips to Minneapolis were very frequent as Minneapolis is but 500 miles south. I expect to be married this June in the East. I can't figure out why I have waited so long as I am *sure* it is the only life. Will drop down to Boston if I have time. What has become of "Fat" Merrill, "Stew" Copeland, "Pete" White and the others? Are they all married or have they gone to some foreign land? Tell them to loosen up

and let us hear from them. So Suzuki is married and to a "Japanese belle." "Suzuk," as Pop Hufsmith used to call him, is sure *some* boy and a mighty good Tech man. I expect to read some day that he will be one of the "heads" of Japan.

Well, Dennie, I think I have done pretty well for a starter. I trust the world is using you well and you can still play that old "box." Many an hour I spent in the Union TRYING to do calculus while you were tearing some weird spasm from amongst those white ivories (some flow of words—no, it is Sunday and the back doors are closed). Keep me posted on all things, especially those pertaining to 1911. Any help I can give in any way, place me down among the "live ones." Here's hoping some of the bunch will at least pass through this glorious city at some future date.

Remember my office address, 509 Boyd Building and let me know. I will meet you at the train and keep you in my little apartment. A familiar face of an old 1911 classmate would be a *most* welcome sight. If anybody comes, tell him to bring an American flag as I see nothing but the English up here.

Best wishes to you and all, for a most prosperous New Year.

Just as the secretary is sending along the copy proofs, he is in receipt of a card from L. Gordon Glazier, announcing the arrival of William Henry Monroe Glazier on March 12. This means that our "class baby" has a little brother. Good work, Gordon!

Address Changes.

Stanley E. Bates, care of National Highways Association, South Yarmouth, Mass.—E. E. Besse, care of Lowell Gas Light Company Lowell, Mass.—O. S. Clark, 30 Sydney St., Dorchester, Mass.—F. G. Cooke, Bureau of Construction and Repairs, Navy Department, Washington, D. C.—F. L. Corts, 456 Greenwood Ave., Richmond, L. I., New York—A. E. Coupal, 75 State St., Boston, Mass.—G. B. Curwen, 1120 Amsterdam Ave., New York City.—Burgess Darrow, 144 East Market St., Akron, Ohio.—A. B. de Arujo, Caixa 104, Manaos Amazanos, Brazil.—J. Howard Dunlap, 369 East Buchtel Ave., Akron Ohio.—D. P. Gaillard, care of D. C. & William B. Jackson, Harris Trust Building, Chicago, Ill.—E. R. Hall, 20 Merrymount Ave., Wollaston, Mass.—Isaac Hausman, 128 Nineteenth St., Toledo, Ohio.—R. L. Hayward, 62 School St., Brockton, Mass.—J. C. Hunsaker, Massachusetts Institute of Technology, Boston, Mass.—W. T. Jones, 903 House Building, Pittsburgh, Pa.—A. H. E. Kaufman, 96 Concord St., Concord, Mass.—G. C. Kenny, 4 Egremont Road, Brookline, Mass.—H. P. Larrabee, Edmonton, Alberta, Canada.—J. L. McAllen, 211 North 20th St., Portland, Ore.—C. R. Perry, Rhode Island State College, Kingston, R. I.—Carl G. Richmond, 16 Bradstreet Ave., Revere, Mass.—P. A. Rideout, Appomattox, Va.—F. G. Smith, 20 Woodlawn Ter., Waterbury, Conn.—R. R. Stanley, 900 Lytton Building, Chicago, Ill.—E. D. Van Tassel, Jr., 143 South St., Boston, Mass.—W. W. Warner, 172 North Perry St., Titusville, Pa.—W. C. West, 111 West Nippon St., Mt. Airy, Philadelphia, Pa.—W. R. Wheeler, care of Ingersoll-Sergeant Drill Company, 31 Oliver St., Boston, Mass.—P. D. White, 1139 19th Ave., W., Calgary, Alta, Canada.—E. M. Young, 11 Warren St., Haverhill, Mass.

1913.

F. D. Murdock, *Sec.*, Mass. Inst. Tech.
A. W. Carpenter, *Asst. Sec.*, 526 Newbury Street, Boston.

Aren't you relieved to find us back on the map? News was pretty scarce just before Christmas, and after we had waited for a sufficient amount to accumulate, Ike Litchfield decided that we had waited too long. It is too bad that more fellows didn't give expression to their feelings of disgust even as did Hap Peck, who started his letter of reprimand in some such fashion as this: "Well, what the —— !" Sorry, Hap, we promise to be good and give you a lot of news, even if we have to invent some, à la Eddie Hurst.

Now, to go way back, we had a class dinner in December at which exactly sixty were present. It was very much the sort of affair our past dinners have been, every bit as enthusiastic, and with the reunion atmosphere to make it the more enjoyable. Bill Mattson acted as toastmaster. Mr. James P. Munroe, '82, and Mr. Louis K. Rourke, '95, were the speakers. The former told us some interesting details concerning our new "'Stute," and Mr. Rourke, in his droll manner, gave the crowd some excellent pertinent advice. When you know that "Mous" Gagnon traveled all the way from Vermont to attend you cannot doubt that the affair was an entire success.

Speaking of matrimony, you have got to "hand it" to thirteen. Just as we set the pace for winning field days so we are for winning sweethearts and wives. To begin with Miss Simmons, IV, and Nathaniel M. Sage, I, were married December 6, at St. Paul's Cathedral in Boston. Mr. and Mrs. Sage are living in Boston.—On Tuesday evening, January 20, 1914, Miss Bertha Mildred Taylor and George R. Burnes, I, were married.—Mayo Tolman, XI, married Miss Ruth Dunbar in December. Miss Dunbar is the daughter of Judge Dunbar of Brookline. She holds the degree of A.B. from Smith College, and was for one year a student at Tech in the Biological Department. The Tolmans are living in Baltimore where Mayo is employed by the Maryland State Board of Health.—On February 9, Lindsey Whitehead, I, married Miss Marie Lauth, of Boston. The following engagements are announced: Albion Davis, I, to Miss Constance L. Hall, of Waltham. —Edgar Taft, VI, to Miss Adelaide Breck, sister of Sam Breck, XI.—Joe Strachan, I, to Miss Mary Louise Hartich, of Brooklyn. —Lester Gustin, I, to Miss Annie Winifred McLean of Somerville and Lionel H. Lehmaier, III, to Miss K. Bradridge Phillips, of Sydney, Australia. Congratulations, and best wishes to you all, fellows and girls! This is a fine list, and just now it is growing every day. Next time we will have a whole page devoted to matrimonial matters.

It is with genuine sadness that we announce the death of Earle

B. Watson, I, on the 23d day of January. Watson was a bright, likable, and public-spirited fellow, and his passing is a distinct loss to the Institute and to the class.

There has been considerable shifting about, incident to getting settled in the right job.—"Rosy" Robinson, I, left the National Highway Commission sometime ago; he stopped in at the Institute on his way to Conway, N. H., where he is working for Barrows & Breed on preliminary water power investigations.—René Richard, I, is on the same job.—After using his wonderful machine to pick all the cotton in sight in the Sunny South, Jack Farwell, II, is taking a little rest at home.—Ken Scott, I, dropped in a while ago, looking as prosperous as ever. He is in the steamship business with headquarters in Duluth.—Charley Thompson, X, has left Pittsburgh to return to Winchester. He is now in the rubber sole business.—Joe Font, XI, is assistant engineer to the "Kink" of Porto Rico, at least he has some sort of government job at San Juan.—Vogel, Hardy, and Byrne, all IV, are in the office of Monks & Johnson, engineers and architects, Boston. They have good jobs and are satisfied with the work.—S. E. Ganser, IV, is structural engineer for the Duluth & Iron Range Ry.—Walt Bylund, II, is in the printing line with the Donnelly Printing Company in Chicago. Walt was one of the fortunate ones to attend the recent convention at Chicago, and we are waiting to hear about it from him.—Over on the new site may be seen standing each day, scale in hand, by the pile driver, a vigilant young engineer. Karl Briel, I, is seeing to it that no pile penetrates too deeply under the last blow of the hammer. You really must have had Moore's course in foundations to understand that last sentence.—Al. Pastene, X, finished his work at the Institute in January, and is at present in Kansas City, working as chemist.—Roger Freeman, VI, is back at the Institute, having just returned from Germany.—Dick Cross, VI, is now at the Boston office of Stone & Webster.—Bill Brewster, II, with the Bemis Bro. Bag Company has been sent to Seattle, where he is in the commercial end of the business. He writes:

> Let's see, I haven't written you since I left St. Louis, have I? I left that —— on earth* the 25th of October, after a fine trip over the Canadian Pacific. The scenery up through the Canadian Rockies is wonderful, too wonderful to describe. I spent a day at Victoria, B. C., and found it a very interesting town. It is described in the railroad folder as a "bit of old England," and while I can't vouch for the truth of the statement, never having been across the water, it certainly is very English. Some of the Englishmen around there were even more so than anything I ever saw on the stage. They are the most healthy bunch of people I ever saw—bright, rosy cheeks. They know how to live up there, they don't kill themselves working, and think of something besides money. . . . Just now I'm on the road selling, and find it pretty interesting. . . . I'm getting a whole lot of valuable experience, and also seeing the country. I attended a lunch at the Tech Club in Seattle, and found a very loyal bunch of alumni, mostly old boys, but all good Tech men, and believe me, it was good to see some. . . .
>
> * Secretary's note: We don't know about publishing this. St. Louis papers please don't copy.

A reply is coming your way soon, William, don't give up hope. —The Bemis Company seem to have a monopoly on letter-writing talent. The following is from a very interesting letter received from Larry Hart, XI:

A few words about my work will suffice. The company has turned over the Southern Illinois territory to me and I am now selling cotton and burlap bags, goods and twines, to the flour and feed mills and the grain elevators located over there across the river. The selling game is extremely interesting, and offers lots of chance for excitement as the competition is very sharp in "Little Egypt," so called because of the city of Cairo, located at the extreme southern end of the state. I just returned from a week's trip down into "Little Egypt" and over into Kentucky. It may seem strange that a "near-sanitary engineer" should follow up the commercial game, but you cannot tell anything about any line of business until you have had a taste. I find my present line very fascinating and it smacks of plenty of excitement and continued valuable experience,—hence the enthusiasm. I am enjoying my work immensely and making many friends over the state. . . . In a letter from Mrs. Maclaurin, she asked me to take my first opportunity for thanking all the men of our class for the floral tribute paid her on the evening of the "Potlatch Chantant." She said that she would keep the basket and ribbons as a reminder of the boys who held such a warm place in her heart. I am sure that I express the sentiments of all the men of our class when I say that we loved and honored Mrs. Maclaurin as the true friend of Technology men and the inspirer of all our school spirit. She did all in her power to make our school life happy and pleasant. . . . Please give my kindest regards to the men with whom you come in contact or have correspondence.

Too few of us appreciate to what an extent Mrs. Maclaurin devotes herself to promote the most desirable sort of democratic sociability here at the Institute. It is a pleasure to quote Larry's testimonial, and it has our most sincere endorsement.

The scarcity of letters which come to the secretaries might possibly be explained as being the result of the state of mind of Lammie when he writes:

If thoughts were hieroglyphs and mind waves were pyramids you'd be a cut between Ramesis II and Cheops in your possession of the Upper Nile. This is the hundred and 'steenth time I have sat down to inscribe papers in your direction, and the first time anything has eventuated.

Here's hoping that others may "eventuate" soon. He says later:

I've been treading the Parnassus path of philosophy on the cast thorns of actuality since leaving dear old Tech.

He writes nothing which would indicate what in particular he has been working at. The following is typical of the sort of letter, from Clarence J. Berry, VI, with the National Lamp Works, Cleveland, which we are very glad to print in full:

The Technology Club of Northern Ohio is sure some live bunch. Am impatiently waiting for another banquet to be pulled off at the University Club, the twenty-third. The Tech fellows of the National Lamp Works expect to show some stunts in lighting there. At Nela Park, where our general offices are located, there are nine Tech men; wish some of the fellows could only see the place, grand layout.

Am doing research work. Have been conducting tests along photometric lines, testing "getter lamps" in high temperatures, finding life of flashed sign lamps,

investigating the overshooting of current by means of an oscillograph when switching on Mazda lamps, determining temperatures obtained in enclosing glassware and metal reflectors when using the new 1100 c. p. lamps, taking micrographs of glassware, and am now scratching my head on a problem of determining relative intensities of illumination required for reading by natural and artificial light.

Well, Mazda is my middle name now. Why even the young ladies of East Cleveland's society call us "the gleams." (Some light talk.)

Best regards to all the fellows and if any happen to come to Cleveland I hope they will look me up at the National Club.

Hap Peck continues to be our old standby in the matter of keeping us posted. The following is from his letter of February 27:

I left Omaha just before Christmas and have been here (St. Louis) ever since. I expect to leave here shortly for the South, my trip taking me to Houston, New Orleans and Memphis, before returning here. That is, if the Mississloppy behaves itself and doesn't get to slopping over its banks as it did a year ago.

I have been pretty busy since my return here, and at times almost felt as though I was back at the Stute. For several nights this year I have worked straight through, spending all told some thirty odd hours at my desk at one stretch. All of which has given me a great deal of knowledge and some experience. If anybody in 1913 has any trouble in figuring his income return to the government, just refer him to me, as I have spent considerable time in making up the returns of the corporation, and naturally picked up quite a little information on the subject of income.

Thanks very much, Hap, for your offer of assistance, let's hope we will need it some day. Just now a little advice on the adjustment of large outgo and small income would be more valuable. —Al Gilson, III, is mining in California. He says:

Am working in the various mines in Shasta County, California. Am getting a lot of that stuff they call experience.

Alas, Al, that's about all most of us are getting, there are exceptions, however. Danny Lewis, X, "blew" into the Institute lately, the picture of prosperity. He has an excellent, responsible position as chief analytical chemist of the Lackawanna in the Scranton office.—Harold Rand, I, visited us on the same day. He is a draftsman in the Harrisburg, Pa., office of the Pennsylvania Steel Company.—When last heard from poor Harry Norman, I, was a victim of the efficiency of the new Boston administration. He had been working for the Park department.—Bob Allton, XI, is with the New York State Board of Health, at Albany.—Benjamin Thomas, Jr., VI, is assistant engineer for the Electric Company of Missouri. He is also connected with the St. Louis Gas Company. —E. A. Downey, Jr., VI, has been with the Wagner Electric Company, St. Louis, since June.—We were much interested to learn from his card that J. G. Rudolph, I, has just been a staff engineer in the laboratory of Thomas A. Edison. Jimmie is back at the Institute this term to complete the requirements for a degree.—Winthrop Caldwell, X, Allan Brewer, III, Bill Edwards, I, George Chambers, I, and Ernest Osborne are back for this term to finish up. Osborne just recently resigned his commission in the coast artillery.—There has been some doubt as to which

class Walter Hughes, who, by the way, needs no introduction to Tech men of the past five years, belongs. The following article from the January 30 issue of the Sydney (Australia), *Evening Sun* gives our class the honor:

Walter Scott Hughes, Boston Institute of Technology, class of 1913, is the unknown donor of a 1,000,000 dollar cheque, and is a man of mystery, according to fellow-students at Tech.

For they say Hughes is:—

"The pride of Tech."

A grind.

A dreamer.

A hater of the conventions as regards dress.

A millionaire, yet most democratic.

And last, but not least, a leading exponent of the army trying to solve the high cost of living.

Hughes, who is a resident of Milton, is the son of the late William Hastings Hughes, for years a wealthy importer of wines. He is 26, was graduated from Milton Academy, and later spent three years at Williams College.

On the roof of the Walker building at Tech, Hughes was found trying to extract a high-class sugar from a carbon-monoxide or some other solution. Nearly 6 feet tall, gaunt of frame, his upper lip hidden by a drooping moustache, Hughes looks older than the average Tech man.

IN "WORKING TOGS."

Hughes's tie was askew as he worked. His soft collar was open at the throat, and the ancient shoes that covered his feet were almost separated from the heels.

Although wealthy in his own name and heir to an estate estimated at a million, Hughes is always striving to lower the cost of living. Daily, instead of helping to pay the expenses of the New York, New Haven & Hartford, Hughes hikes to his home in Milton.

"It's good exercise," he said, "and it is saving. And I'm some saver."

The Tech boys say that some time ago, when he decided to economize, Hughes visited a five-and-ten-cent store. He bought a supply of tins, cups, and cooking utensils, determined, while in Boston, to cook his own meals.

Disdaining a wrapper over them, he tied them together on a string. Slinging them over his shoulder, he walked to his Marlboro street room, thereby saving, as he afterwards said, five cents.

DOESN'T MIX MUCH.

"I'm not much of a fellow for mixing up," he said. "I don't belong to the clubs, and about the only fellows I know here are those who work next to me and my old roommate."

Hughes cares little for social affairs.

"I don't bunny hug or turkey trot or tango either," he said. "I'm not opposed to them, although it makes a difference who is dancing them and why. It's no worse for some to dance them than it is for others to waltz. As for myself, I'd rather enjoy a good sleep or a long walk than attend a social."

On the subject of marriage Hughes has his own views.

"I suppose I'll get married some day or other," he said, "but I've not picked out the young woman yet."

According to Hughes, his opinion of marriage coincides with Robert Louis Stevenson's that "marriage is like life in this—that it is a field of battle, and not a bed of roses."

John Underhill, I, is in the office of the R. H. Howes Construction Company of New York.—Allan Beale, I, has a very responsible position. He is engineer in charge of erection for one of the sub-contractors on a portion of the new L-road structure being

built in Queensboro, New York City.—Phil Capen, X, is taking a course in "hide-tanning," etc., at Pratt Institute, Brooklyn.—Miles Langley, I, left school after the death of his father, and he is now working as computer for Percival Lowell, astronomer.—It was with many misgivings that Bill Mattson left the Massachusetts Highway Commission; Bill in his long residence having become very much attached to Boston and suburbs, mostly the latter.—He has just gone to Rochester, N. Y., where he is to be assistant to the hydraulic engineer for the Rochester Electric Light & Power Company.—"Goeff" Thayer, VI, wrote just in time, to correct our statement in the November issue that he was working for the A. T. and T. Company. He is really assistant to the electrical engineer for Gibbs and Hill, consulting engineers on electrification, for the Pennsylvania, Lackawanna, and other lines.

The secretary wishes to thank the fellows for their prompt replies to the letters which he sent out, for the many news items enclosed. The fortunes of the class already show nearly all the vicissitudes of life. Notices of marriages, births and deaths were sent in; one fellow has made what will seem to a good many of us a "pile," and another reports the loss of all his property. The secretary is sure that he voices the sentiment of the entire class when he adds that he was particularly pleased to hear from many fellows who used to be with the class, but who, for one reason or another, had dropped out before graduation.

We are sorry to have to report the loss of two men who used to be with us. News has just reached us of the death of D. M. Goldie, May 22, 1912, near his home in Ontario; and of Lee C. Perkins on December 27, 1913. The sympathy of the fellows who knew these men is surely extended to their parents.

Another class baby has arrived as a rival to Miss Ready; or perhaps rather as one of her future suitors, for this baby is a boy.—J. W. Brooks Ladd, I, who is confidential clerk to the second assistant Postmaster-General, reports the birth of a son, Arnold Boutell Ladd, on July 20, 1913. By this time he can probably recite the log table at least.—Bob Nichols, I, who is working for the Chaves County (N. M.), Drainage Commission, writes:—

> We have just finished our survey of about four hundred miles of drain lines and are now getting the cost data together. It sure enough is an expensive proposition. On the side we have all kinds of county work, laying out parks, putting in irrigation ditches, making land surveys and locating new roads across the plains. Washington's Birthday I rode thirty miles in a mule team out at the edge of the staked plains and through the Mescalero Lands trying to get a passable grade over what is called the Cap Rock, a huge cliff on the west of the plains. A 10 per cent grade for about 800 feet at an expense of $3,000 was the best result that our labors could produce. . . . That was a day I appreciated the sinkers that one of the old timers spoke about at a meeting of the Boston Society last year. But at that time I got too horrible an impression of them. They are great, especially when used to weight down quail, sow-bosom and frijoles, the inevitable black coffee being used as the lubricant. And man!! the thrills that ran up and down my column when I woke up from my first sleep in a tarp on the plains was well worth the price of admission to this young state. . . .

Nick is evidently roughing it to his heart's content, We ænemic office hands envy you, Bob.—Herbert Cady is a draftsman for the Electric Boat Company of Groton, Conn.—Victor Mayper, I, is designing and arranging structural steel on a section of the new elevated road coming off the Queensboro Bridge.—Bill Katzenberger, VI, is assistant power engineer with the Edison Electric Illuminating Company of Brooklyn.—Donald Van Deusen, II, sent along another good letter. He is in the ice machine business, and writes:—

I have enjoyed life immensely since coming here and of course worked most of the time. I find refrigeration is not such a cold proposition as one might think, but quite the opposite, it deals with several of the warmest things imaginable including our old friend entropy whose acquaintance I managed to dodge pretty successfully while in Boston. I have at times inwardly consigned the invention of these things to regions of asbestos clothing.

During the months of December and January I was in Fort Wayne, Ind., where I found out how much I didn't know about pipe fitting and erecting. I was out there helping install and test one of our forty-ton machines in a new cold storage warehouse. The firm deals largely in chickens and they had the place filled up a good share of the time with several thousand of the feathered variety which proved to be even more obnoxious to the senses than any other kind. We got the machine going however and then yours truly hit the trail back for Carbondale, "The city of the eternal Sabbath," and has been cooped up here ever since. This is the busy season in the ice machine business as most of the deliveries are made in the spring to enable summer operations, consequently the drafting room is pretty well loaded up with work.

We had almost given up hope of finding out what had happened to Al Ranney, when his letter came. (We thought perhaps you were kidnapped Al, and were about to *cherchez la femme.*) Al is resident engineer on the construction of a crusher plant and quarry for the Texas Trap Rock Company of San Antonio, Texas. He writes:—

A two months' summer vacation, which I was sorely in need of, terminated rather badly. I broke my right arm trying to coax a wayward automobile to start according to theory and past practice. That laid me up for about six weeks and then out I went and since have not stopped.

My winter has been one of valuable experience, for my work has been varied, such as a fellow gets in a consulting engineer's office, for I did a lot of work under C. T. Bartlett, M. I. T. '06. I helped design and install an electric pumping plant for irrigation on the Rio Grande, south of Eagle Pass. Old D. E. M. didn't prove my stumbling block this time, but proved a valuable asset. Some concrete bridge design for Bexarn County followed and a lot of city and county land surveying brought me up to the preliminary work for this job, which I handled. I ran a topographic survey of the proposed site and the preliminary designs and layout preceded, of course, the construction which I am now on. I have been lucky in getting variety; and, believe me, all courses look alike when a fellow gets out—civil, mechanical and electrical—all together—I use my Kidder and Kent almost as much as my civil books. My notes on Miller's lectures sure come in great now, for we have a bunch of machinery to set. . . .

Jimmie Beale, XI, is having his own troubles out in Victoria, B. C. He writes:—

I've never worked for a railroad as you said in one issue of the REVIEW. I've been instrumentman, topographer, draftsman and chainman on different survey

parties, and for one joyful month in complete charge of a wheelbarrow and shovel. I'm in the office now waiting for something to turn up.

Cheer up, Jim, pushing a wheelbarrow requires as much skill as pushing a pen over a piece of tracing cloth, as a good many are doing.

Many of the men have entered municipal service.—Ralph Alger, I, is assistant engineer on the improvement of the water works of the city of Akron, Ohio; a $3,500,000 project.—Donald Armstrong is also a sanitary expert and is superintendent of the Bureau of Public Health and Hygiene at Stapleton, Long Island.—Another city-builder is Thierfelder, I, who is keeping Providence on the map by many useful activities.—Harold Crocker, I, has charge of a party for the city engineer of Brockton. What would the cities do without '13 men?—Laurence Bevan reports as farmer, and adds that last December he lost all he had by fire. Tech spirit is still on the job though, for the last remark is that building is to be started again soon. We wish him better luck this time.—Allison Smith is our only other farmer and has been studying at Massachusetts Aggie.—The most jovial note that the secretary got was from Walter Brown, XI, brief and to the point, it read:

Will mail you $100 for class dues shortly.

That is the kind of letter that makes the office of secretary (and treasurer) a joy; and what a fine example for the class! Brown is with the Massachusetts State Board of Health and surely must be prosperous. Thanks for those few words, Walter.—Alfred Katz reports that he is:

working like a Trojan—and for the state at that.

Evidently, he just can't break himself of the habits acquired at the 'Stute, but it does sound queer, doesn't it? Katz is industrial health inspector in Fall River.—L. Bonvouloir is in Boston with the equipment department of the Bay State Street Railway Company.—George Cahill, Jr., is contributing to the "uplift" movement we hear so much about, as station betterment engineer with the Blackstone Valley Gas & Coke Company, of Pawtucket.—Walter Palmer—not the after-dinner speaker—is engineer for the American Dye Wood Company, Chester; and T. Wellington Pinnock is concrete engineer in Boston.

Phil Barnes, X, has gone into the insurance business as inspector for a fire insurance company. A number of the men have taken up business careers. Fellows buying their season's cars may look up Harry Burnham, who is salesman for the Metz Company in Boston.—Halsey Elwell is on a long trip through the South and West which will last till June. He is traveling salesman with the Stetson Shoe Company.—Harold Green is now clerk with the Worcester Trust Company.—David Hilliard and George Dempsey also occupy clerical positions. Hilliard is in a shoe mill at Haver-

hill; and Dempsey, who had to leave the Institute on account of his health, is working for the Dennison Manufacturing Company.—P. LeRoy Flansburg, VI, has hung out his shingle. "Flansburg & Conkling, General Engineering." Sounds good, doesn't it? Just on the side, Roy is safety engineer for the Ocean Accident and Guaranty Company in Boston.—Three of the course VI men are serving as student apprentices with the big electric companies.—C. W. Gotherman is with the Westinghouse Company in Pittsburgh.—G. R. Pardey is with the same company, but they located him in Wilkinsburg; very inconsiderate of them, when Tech men are all like brothers.—Everett St. John, II, is another student engineer, but the Bell Telephone Company secured his services.—Joseph Summerville, VI, is draftsman on Milk street, Boston.

Some of us are now working for Uncle Sam.—Fulton Gardner is captain of the Coast Artillery Corps, U. S. Army, at Fort Totten, N. Y., and T. B. Richey and E. R. Norton, both XIII, are assistant naval constructors at the Boston Navy Yard.—E. E. Gagnon, II, is probably the busiest man in the class. He reports his occupation as "Gentleman," and that must be some job for Earl. We hope that the piquancy of his conversation may not be marred by neglect.—Course II seems to be prosperous all through. This is from K. D. Hamilton:—

Was with Reed-Prentice Company. Found better position and came with the George E. Keith Company of Campello, Mass., as mechanical engineer. For the last four months have been collecting data to determine the advisability of building a central power station and thus doing away with the four present installations. Expect very soon to start the design and have charge of the construction of a power station having two 500 K. W. turbines and one 200 K. W. This job will take about a year, and then I expect to have charge of the mechanical department of ten factories. Charlie Thompson, X, and I have bachelor apartments at the West Elm Hotel, Brockton. We expect to do a little baseball on the side this summer.

Caesar's famous wireless message has little on Lester Gustin's account of his activities since graduation; just listen:—

American Bridge Company, three months; instructor in civil eng., five months; structural designing, two weeks; engaged, eight months; married next June.

You wouldn't think Gus could move so fast, would you? More of the Course I crowd were heard from.—"Rosie" Robinson has been surveying in Conway, N. H., for Prof. Barrows, "If you call that an occupation." Rosie's chief impression was of the temperature, which was low enough to freeze his nose.—Starr reports as laborer, and is responsible for the report that Schatz is engaged in sewage disposal work in New York state.—H. F. Sutter is bridge inspector for the Boston & Albany.

Several of our fellows are already instructing the youth as members of different faculties. Alfred Kocher is assistant professor of architecture at Pennsylvania State College; and Faragher, who took his doctor's degree last June, is assistant professor of chemistry at the University of Kansas.—J. B. Woodward, Jr., II, is

acting professor of mathematics at Richmond College, Richmond, Va., his home city.—Ramsdell, V, is teaching at the Manchester High School.—K. B. Blake, XIV, is at Queen's University, Ontario, where he is research associate in applied electro-chemistry under Dr. Kalmus. Tech men are scarce up there, he says, but we are glad to have one good man on the job, any way.

Congratulations are due W. W. Barrows, IV, as winner of the Chamberlain Prize in architectural design. This is the first year that the prize has been offered, and it is open to fifth-year men only. —Caleb Peirce, IV, is now studying architecture in Paris.— Arthur Hirst, V, is chief chemist for the American Printing Company at Fall River. It sounds good, just listen:—

> The A. P. C. is one of the largest textile printing plants in the world, some weeks printing over a million yards of cloth. They only just woke up to the fact that they needed to run the place on chemical principles, so I was blessed with the job of installing and running the lab. I'm still somewhat verdant on the practical side, but am making use of Dr. Mulliken's principles. Haven't seen any '13 men in this forsaken burg.

Heisler Harrington apparently has a thirst for excitement, and has gone with the du Pont Powder Company as superintendent of nitro-glycerine and powder line at one of the plants. We hope he doesn't rise too rapidly.—Nathan Poor, 2d, is a leather chemist. —Joseph Oppenheim, V, is chemist for the Pennsylvania Glue Company, but he had the consideration not to spring anything about sticking to his job. Thanks just for that.—Dave Nason has located in Salem in the Cost and Efficiency Department of the Kelburn Leather Company. You'd expect Nason to boost the efficiency, but how about the cost?—C. M. Woodstock, V, is chemist for the Forbes Lithograph Manufacturing Company in Boston.—Si Champlin, V, confesses he has returned to his early ideal, that of serving humanity. He is making Campbell's soup, and adds that life in a soup factory is rather spicy. Don't exceed the limits of good taste, Si, whatever else you do.—S. D. Shinkle writes:

> Was with United States Tire Company until I got sick, and have been home ever since.

Any of us who has smelled a rubber factory will understand.— Taber, X, who took his master's degree last June, is doing research work for the Semet-Solvay Company, Indianapolis.—Adler, another X man, is in business with the Corona Coal & Iron Company, Birmingham, Ala.—Renfrew, XIV, sends greetings from the Raritan Copper Works in New Jersey.—F. T. Smith, XIV, is with him; but according to the manuscript, Smith looks after the ladies while Renfrew does all the work. Division of labor certainly increases efficiency, and they ought to be successful.—Edgar Weil, III, is assistant manager of the Enamel Products Company. This ought to interest our members who are starting housekeeping.— Charles Hill, III, who took his master's degree with us, is mining

engineer for the Braden Copper Company, Rancagua, Chili.—Look! News from San Francisco! Very important!! Special interview with the vice-president, U. S. Sales Company! He says:—

Have quit mining game and gone into business. I am sure enjoying life here in San Francisco, and next year expect to devote about half of my time here entertaining the Tech fellows who come out to the fair. There sure will be some time here next year. Regards to all the fellows, Al. Gibson.

Al's experience on *The Tech* ought to count for something in the business world.—Announcements which came in too late for our "Matrimonial Column" are as follows: Philip Schmitt, efficiency engineer and expert experimentalist for the Electrode Company of America, at Niagara, was married June 2, 1913.—The marriage of Miss Dorothy Streeter and Philip Redfern was celebrated December 31, 1913, at the home of the bride in West Medford.

But think not, gentle reader, that all of Arlo's teachings have fallen on barren ground. Although every other principle of English composition may have been violated in these few pages, one precept has been kept steadily in mind, the dread effect of anti-climax. Consequently, the most startling bit of news has been saved for the last:—

Eddie Hurst is responsible for the statement that "Our worthy classmate Mr. Luzern Custer, II, is some boy! He has sold part rights to the profits of his patent on steam meters for $50,000." That certainly is going some, and settles that idea about 13 being a hoodoo. Smokes for the crowd, Custer, you have our hearty congratulations.

It seems a long way off, but the time for the Potlatch this June is really right at hand, and this is the only opportunity to speak of it in the REVIEW. You know well enough that upon such an occasion the classes are very much on exhibition, and comparisons are sure to be made. Fellows, we're out to gain the reputation of having the livest class in the alumni, and every '13 man in New England must plan right now to be on hand. You will receive notices concerning our plans.

Address Changes.

Ralph T. Alger, 127 Brady St., Kent, Ohio.—Robert A. Allton, New York State Board of Health, Albany, N. Y.—G. W. Bakeman, 92 Carleton St., Portland, Me.—A. S. Beale, care of Lucius Eng. Co., Sidney, Ohio.—John Blatchford, 333 N. Euclid Ave., Oak Park, Ill.—Lionel Bonvouloir, 84 State St., Room 529, Boston.—Emerson L. Bray, care of Fairbanks, Morse & Co., 109 Lyman St., Springfield, Mass.—C. W. Brett, North Abington, Mass.—Henry A. Burr, Office Steel Bridge Building Co., Steelton, Pa.—G. N. Burrell, 3816 N. 26th St., Tacoma, Wash.—Allison Butts, Jr. Chrome, N. J.—Walter R. Bylund, 843 Sheridan Rd., Chicago, Ill.—Thomas Byrne, 49 Astor St., Boston.—Herbert Cady,

Groton, Conn.—George H. Clark, 722 Franklin St., Melrose Highlands, Mass.—William N. Flanders, 3 C St., Niagara Falls, N. Y.—H. Kenneth Franzheim, Tech Service Building, Cambridge, Mass.—E. H. Gage, 225 Newbury St., Boston.—E. E. Gagnon, Vermont Marble Co., Proctor, Vt.—S. E. Ganser, 505 Wolvin Building, Duluth, Minn.—A. T. Gibson, 2550 Pacific Ave., San Francisco, Cal.—C. W. Gotherman, care of Westinghouse E. & M. Co., East Pittsburgh, Pa.—Lindsley F. Hall, care of J. W. Congdon & Co., Cairo, Egypt.—Kenneth D. Hamilton, George E. Keith Co., Campello, Mass.—William F. Herbert, Tech Club, New York City.—C. Kirk Hillman, 416 Franklin St., Keokuk, Iowa.—Arthur E. Hirst, 581 June St., Fall River, Mass.—Henry G. Hoornbeck, 93 Prospect St., Cambridge, Mass.—Edward E. Jewett, 441 Green Ave., Brooklyn, N. Y.—Prescott V. Kelly, 317 S. Craig St., Pittsburgh, Pa.—Maurice E. Levy, care of U. S. Coast & Geodetic Survey, Washington, D. C.—Clifford A. Lloyd, care of Carmichael Construction Co., Akron, Ohio.—A. M. Loeb, 72 Barton St., Pawtucket, R. I.—Thomas J. Lough, Cedars, P. Q., Canada.—Victor Mayper, 253 W. 112th St., New York City.—Edgar Menderson, 3325 Burnet Ave., Avondale, Cincinnati, Ohio—Walter P. Muther, 223 W. Lake St., Chicago, Ill.—Rhys H. North, 11 Tulip St., Summit, N. J.—S. W. Parker, 20 S. Harrisburg St., Steelton, Pa.—A. J. Pastene, 1008 Barnett Ave., Kansas City, Kan.—H. M. Rand, 1427 N. Front St., Harrisburg, Pa.—Milton R. Sabin, Guantanamo Sugar Co., Isabel Estate, Guantanamo, Cuba.—G. H. Starr, Danbury, Conn.—Ernest Weller, 318 W. 57th St., New York City.—C. H. Wood, Tech Chambers, Boston, Mass.—Julian E. Adler, 2147 Highland Ave., Birmingham, Ala.—Donald B. Armstrong, Stapleton, L. I., New York.—Lawrence A. Bevan, No. Leominster, Mass.—William R. Bottomley, Y. M. C. A., Cambridge, Mass.—Allen F. Brewer, 66 Highland Ave., Newtonville, Mass.—Murray F. Burleson, 613 Montgomery St., Jersey City, N. J.—George R. Burnes, 8 Dartmouth St., Everett, Mass.—G. H. Buchanan, Slatington, Pa.—Allison Butts, Chrome, N. J.—Adolph C. Cardinal, 319 Park Ave., Paterson, N. J.—Richard B. Cross, 147 Milk St., Boston, Mass.—J. L. Donaldson, Carrollton, Ky.—P. LeRoy Flansburg, 143 Mason St., Brookline, Mass.—A. C. Goodnow, Highland Park, Ill.—Harold I. Green, 914 Main St., Worcester, Mass.—Lester C. Gustin, 23 Dartmouth St., Somerville, Mass.—Charles M. Hudson, Natick, Mass.—Alfred Katz, 229 E. 72d St., New York.—Glyde Katzenstein, 1946 E. 71st St., Cleveland, Ohio.—A. M. Loeb, Box 194, Meridian, Miss.—D. E. Lewis, 1320 Mulberry St., Scranton. Pa.—William R. Mattson, 384 Grand Ave., Rochester, N. Y.—A. P. Nelson, 231 Pearl St., Trenton, N. J.—Robert B. Nichols, 502 No. Missouri Ave., Roswell, New Mexico.—Walter Palmer, W. 24th St., Chester, Pa.—C. R. Pardey, 612 Coal St., Wilkinsburg, Pa.—T. Wellington Pinnock, Technology Chambers, Boston, Mass.—S. R.

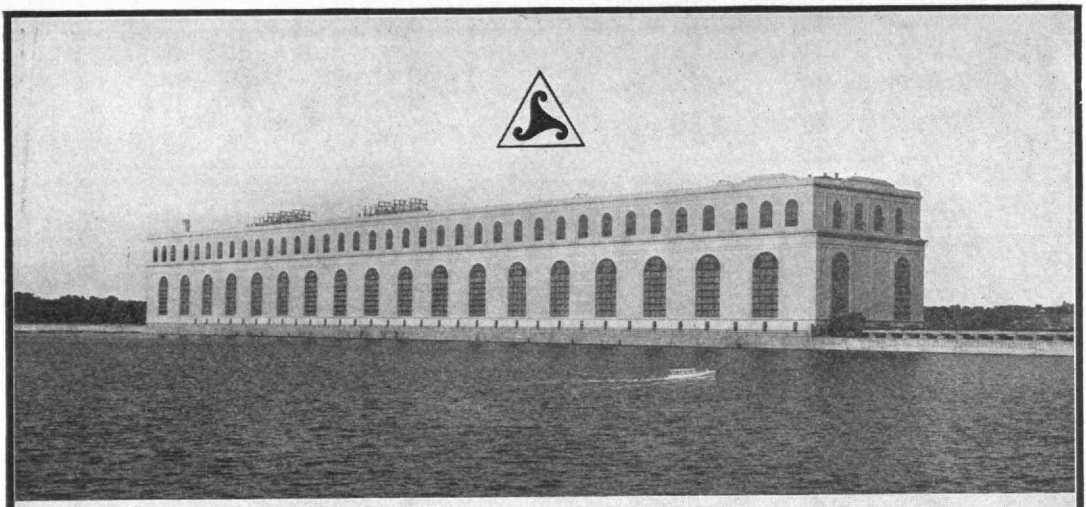
Ramsdell, Box 565, Manchester, N. H.—Alfred G. Ranney, care of Texas Trap Rock Co., Knippa, Texas.—Kenneth W. Reed, 1952 E. 116th St., Cleveland, Ohio.—Luther J. Renfrew, Perth Amboy, N. J.—Henry James G. Rudolph, No. 6 Club, Cambridge, Mass.—Everett St. John, 32 So. 21st St., Philadelphia, Pa.—G. H. Starr, 13 Fairview Ave., Danbury, Conn.—Philip E. Schmitt, 519 Cedar Ave., Niagara Falls, N. Y.—Kenneth A. Scott, Wickliffe, Ohio.—Charles Albert Smith, Box 100, Miami, Arizona.—Mayo Tolman, 1028 Cathedral St., Baltimore, Md.—Henry C. Thierfelder, 3 Major St., Providence, R. I.—H. Stanley Tirrell, 23 Abbott Place, Brockton, Mass.—Donald H. Van Deusen, The Anthracite, Carbondale, Penn.—Allan G. Waite, Box 628, McGill, Nevada.

WHAT TECH MEN ARE DOING

ADVERTISING RATES

Quarterly Numbers Only.		Entire Nine Issues.	
Professional Card, - -	$ 10 per year.	Professional Card, - -	$ 16 per year.
¼ Page, - - - - -	35 " "	¼ Page, - - - - -	56 " "
½ " - - - - -	60 " "	½ " - - - - -	96 " "
1 " - - - - -	100 " "	1 " - - - - -	160 " "

THE TECHNOLOGY REVIEW, 491 Boylston St., Boston



POWER STATION FOR THE MISSISSIPPI RIVER POWER COMPANY
KEOKUK, IOWA.

MATERIAL

REINFORCED CONCRETE AND STRUCTURAL STEEL.

SIZE

LENGTH	894 FEET
WIDTH	124 FEET
HEIGHT	100 FEET

FOUR FLOORS

GENERATORS AND ACCESSORIES ON FIRST FLOOR, OIL SWITCHES AND OTHER ELECTRICAL AUXILIARIES ABOVE.

TRUSSED ROOF

TOTAL FLOOR SPACE

230,000 SQUARE FEET, OR ABOUT 6 ACRES

TOTAL CONCRETE

21,000 CUBIC YARDS.

STRUCTURAL STEEL

2,580,000 POUNDS.

STEEL REINFORCEMENT

1,980,000 POUNDS.

CAPACITY

PRESENT, 150,000 HP.
ULTIMATE, 200,000 HP.

STONE & WEBSTER ENGINEERING CORPORATION

CONSTRUCTING ENGINEERS

NEW YORK BOSTON CHICAGO

TRADE MARK.
REGISTERED.

NEW ENGLAND FELT ROOFING WORKS

101 MILK STREET, BOSTON. TEL. 1496 MAIN

ESTABLISHED 1852 INCORPORATED 1891

"BEEHIVE" BRAND FELT ROOFING AND WATERPROOFING MATERIALS

¶ The Standard Specification in New England for 60 years. Quality, Quantity and skilled application has given gravel roofing its present reputation with architects and property owners. More than 400,000,000 square feet now in use. Insured in all leading insurance companies in the United States and abroad at same rate as Metal and Slate. Our testimonials cover roofs 35 years old still in good condition.

¶ STANDARD SPECIFICATION:

1	1st.	One layer "Beehive" Brand Rosin Sized Dry Paper.	1
	2d.	Three layers "Beehive" Brand Roofing Felt.	
	3d.	Mopping "Beehive" Brand Roofing Composition (of not less than three gallons per square 10 x 10).	
2	4th.	One layer "Beehive" Brand Roofing Felt.	2
	5th.	Mopping "Beehive" Brand Roofing Composition (of not less than three gallons per square 10 x 10).	
3	6th.	One layer "Beehive" Brand Roofing Felt.	3
	7th.	Pouring "Beehive" Brand Roofing Composition (8 gallons to square 10 x 10, into which is to be bedded clean, dry gravel or slag).	

NOTE.—In writing specification, it is advisable to write *in full*, **"Beehive Brand" Roofing Material,** Manufactured by the New England Felt Roofing Works.

¶ Three Section Roofing Specification.

Each Section complete in itself.

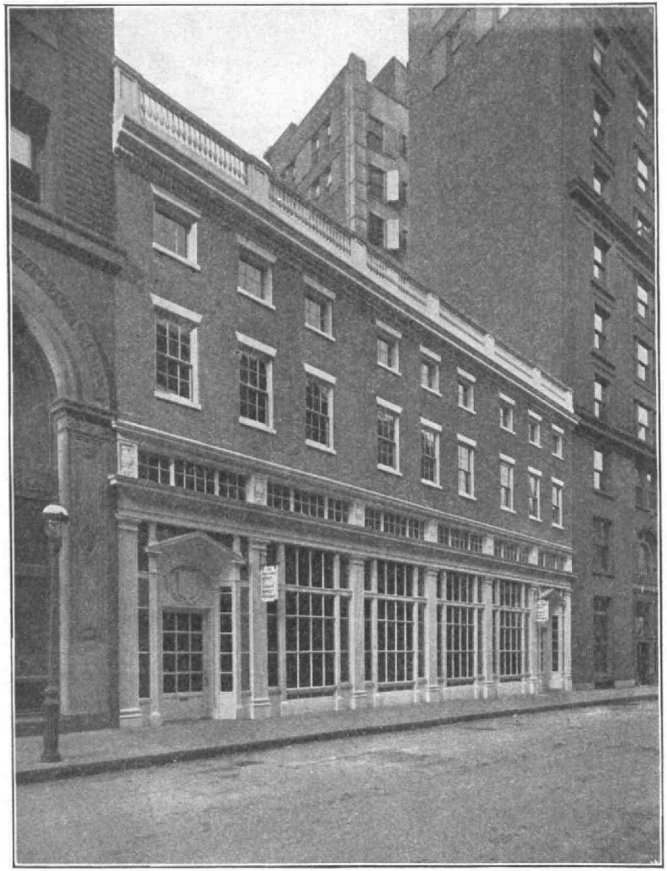
Open work, easy inspection and detection of oversights in application.

Cambridge Subway all waterproofed with "Beehive" Materials.
Boston " " " " " Felt.

Felt Manufactured by the

MUNROE FELT & PAPER CO., Lawrence.

JAMES P. MUNROE, '82, Pres. and Treas.



GILMOUR, ROTHERY & CO., 120-130 Water Street, BOSTON

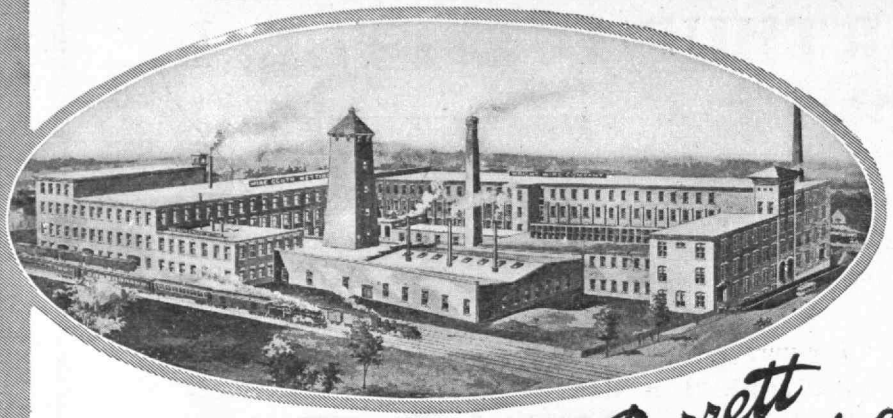
ANNOUNCEMENT

The insurance firms of Gilmour & Coolidge, and Rothery, Emery & Perkins have consolidated as of February first, nineteen hundred fourteen, and have removed to Nos. 120-130 Water Street, Boston. The building has been entirely remodeled for the exclusive use of the firm, which will conduct a general insurance business under the name of

GILMOUR, ROTHERY & COMPANY

William Gilmour Herbert Coolidge, '71 J. J. E. Rothery
S. T. Emery Willis D. Rich Thomas E. Sears, '03
Charles F. Simmons

Why you should be interested in Roofing



Wright Wire Company, Worcester, Mass., Buildings covered with Barrett Specification Roofs.

Barrett Specification Roofs

FREQUENTLY the building of a roof on a factory or warehouse, or any building, is regarded as merely incidental to the whole proposition.

Great care and thought are spent in deciding whether to use stone or concrete for the foundation. Even the choice of materials for the fence about the place gets its share of attention.

But with many owners of buildings the roof is only a roof and they take it as matter of course that they must repair leaks every now and then.

Do you realize that this is the wrong viewpoint?

The roof is a most important part of the structure. If properly specified, you will be free from leaks and trouble and expense.

The Barrett Specification is the scientific standardization of an old established theory of roofing—one that has stood for years as the best in roofs—namely, a combination of coal tar pitch, tarred felt and gravel or slag.

If *you* want a really waterproof, fire-retardant roof covering that will last 20 years or more, be sure you get a Barrett Specification Roof.

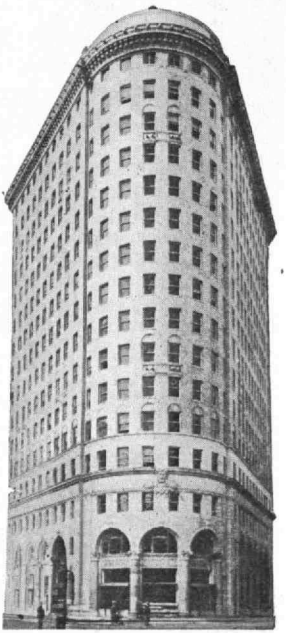
Special Note

We advise incorporating in plans the full wording of The Barrett Specification, in order to avoid any misunderstanding.

If any abbreviated form is desired, however, the following is suggested:

ROOFING—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised August 15, 1911, using the materials specified and subject to the inspection requirement.

The Turks Head Building
Providence, R. I.
Architects, Howells & Stokes
Builders, Thompson-Starrett Co., New York.
Barrett Specification Roof



A copy of The Barrett Specification in full sent free on request. Every owner, builder and engineer should have it.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Kansas City
Cleveland Cincinnati Minneapolis Pittsburgh Seattle Birmingham
THE PATERSON MFG. CO., Limited: Montreal Toronto Winnipeg
Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.

TRADE B MARK

SECURITY HOLDERS

AT both offices of the Old Colony Trust Company there are modern *SAFE DEPOSIT VAULTS* which offer complete security for papers and other valuables.

The commodious coupon rooms in these vaults are especially advantageous to security holders, owing to the extra work involved in complying with details required by the ***Federal income tax law.***

The officers of the Old Colony Trust Company will be glad to consult with box-renters regarding income tax questions.

Old Colony Trust Company.

MAIN OFFICE
17 Court Street

BRANCH OFFICE
52 Temple Place